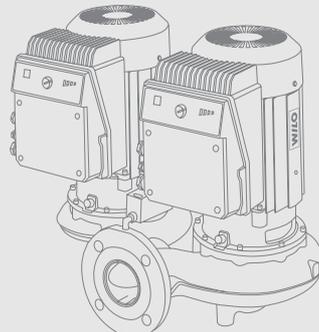
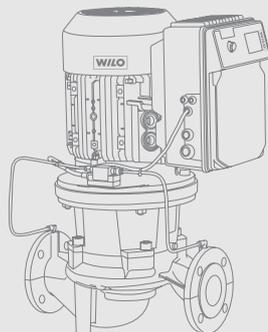
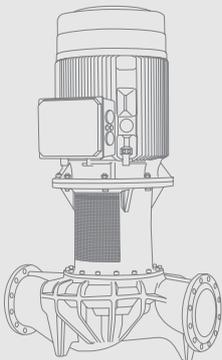


# In-Line Pumps

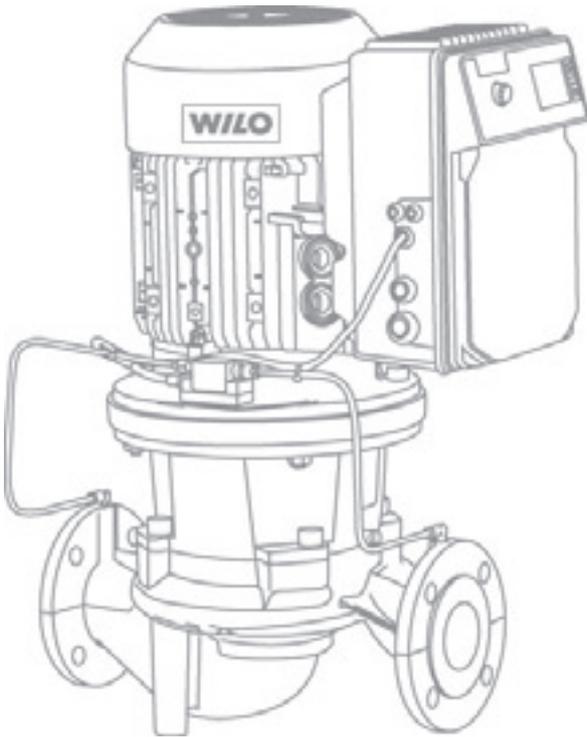
인라인 펌프 (IL/IPk/PIL/PIN Series)

전자제어 인라인 펌프 (IL-E/DL-E/IP-E/DP-E Series)



## In-Line Pumps

### 윌로 인라인펌프가 드리는 약속



#### 신뢰성

사용온도 범위 -20℃ ~ 140℃에서 사용할 수 있으며, CAD/CAE에 의한 신개념의 유로부를 형성하고, 내부 순환수의 와류 및 캐비테이션 방지를 위한 압력 챔버를 채택하고 있습니다. 16bar의 운행에도 가능하며, 흡·토출 플랜지에 PT1/8"크기의 탭이 있어 펌프 내부 압력을 측정할 수 있도록 되어 있습니다. (각 모델별 자료 참조)

#### 특징

효율이 높고 소음 및 진동이 작으며, 설치방법이 용이하여 냉·난방용 및 지역난방 등 여러 순환용에 많이 적용하고 있습니다.

#### 광범위한 적용

최대유량은 850m<sup>3</sup>/h, 최대양정 90m로 광범위한 영역을 Cover 할 수 있습니다.

전원은 모델에 따라 단상 220V, 삼상220V/380V, 삼상380V사용이 가능합니다.

급수가압, 냉·난방 및 응축수 시스템과 상업용, 산업용, 농·공업용의 액체 이송장치 등 다양한 용도로 사용 가능합니다.

#### 유지 보수

펌프ハウ징의 Family Design으로 모터 호환성이 있으며, 양방향성 기계키랄성을 사용하여 수명이 길고 유지 보수가 간편합니다.

■ IL	.....	2
■ IL-E	.....	17
■ DL-E	.....	26
■ IPk	.....	33
■ IP-E/DP-E	.....	35
■ PIL	.....	61
■ PIN	.....	69



### Wilo - IL

New Range 인라인 펌프

### 모델명

- 예) IL 250/420-110/4
- IL : New Range 인라인 펌프
  - 250/ : 흡토출 구경
  - 420 : 임펠러 공칭 외경(mm)
  - 110/ : 모터 동력(kW)
  - 4 : 극수(4극 모터)

### 특장점

- 구조
  - 백풀아웃 구조로 기계적 실과 모터의 교환 및 유지보수가 용이 (IL 250 Series)
  - 커플링 연결구조
- 케이싱
  - 흡토출구의 크기가 같은 인라인 펌프케이싱
  - 외부 Rib를 장착하여 운전압력 이상의 고압에서도 높은 안전성 (대형모델)
- 임펠러
  - 3차원 유동해석을 통한 최적설계
  - 유체의 저항을 최소화 하여 고효율 실현
- 모터
  - IEC 표준 모터 적용으로 높은 호환성
- 기계적 실
  - 카트리지 실로 모터의 분해없이 교환 및 유지보수 가능(IL 250 Series)
  - 표준 기계적 실 장착

### 기술자료

- 사용 액체
  - VDI 2035에 준하는 온수, 냉수, 냉각용수, 글리콜 혼합용수(40%이하), 열교환 용수
- 운전 범위
  - 최대 유량 : 850m<sup>3</sup>/hr
  - 최고 양정 : 90m
- 허용 운전 압력
  - 13 bar 에서 +140℃ 까지
  - 16 bar 에서 +120℃ 까지
- 사용 온도
  - 20℃ ~ +140℃
- 주위 온도
  - max, +40℃
- 축봉장치
  - 기계적 실 (IL 250은 카트리지 실 채용)
- 플랜지
  - PN 16 (EN 1092-2)
  - 1/8" 게이지 태핑
- 모터
  - IEC 표준 모터
  - 3상, IP55, F
- 재질
 

케이싱	Gray Cast Iron
임펠러	Gray Cast Iron
샤프트	Stainless steel
랜턴	Gray Cast Iron
기계적 실	AQ,EGG

### 용도

- 빌딩의 냉온수 순환
- 급탕 순환
- 가압, 응축수 시스템
- 공동주택의 온수 순환
- 쿨링 타워

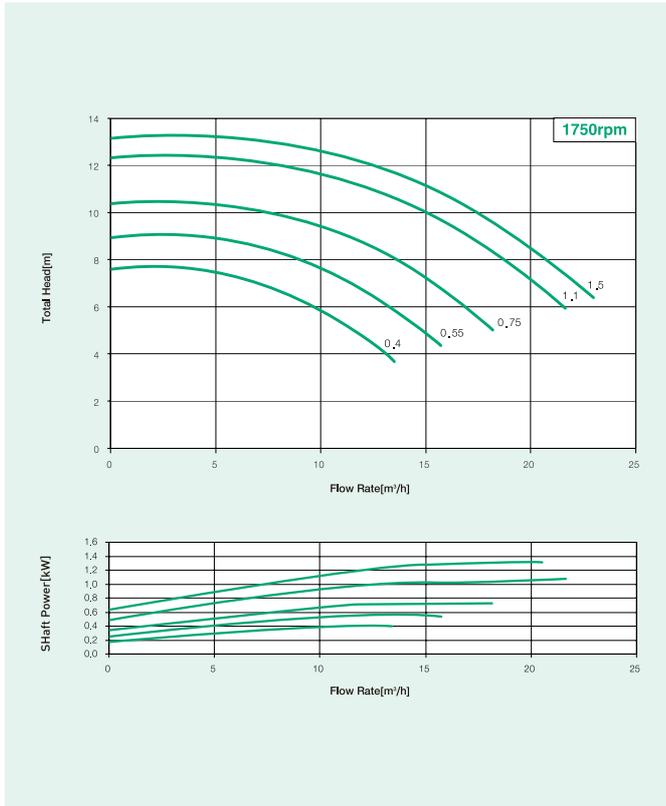
# In-Line Pumps

## IL Series

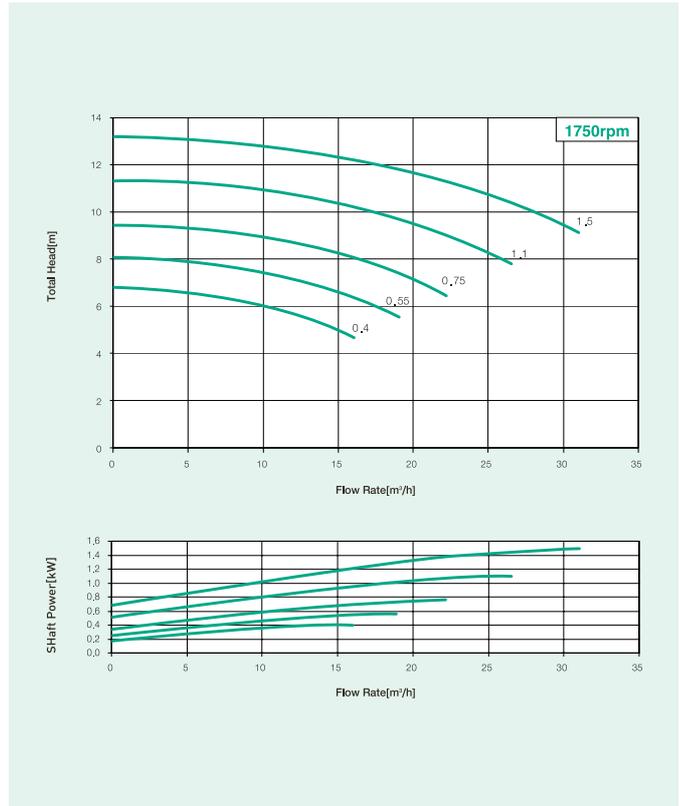


성능곡선 4pole

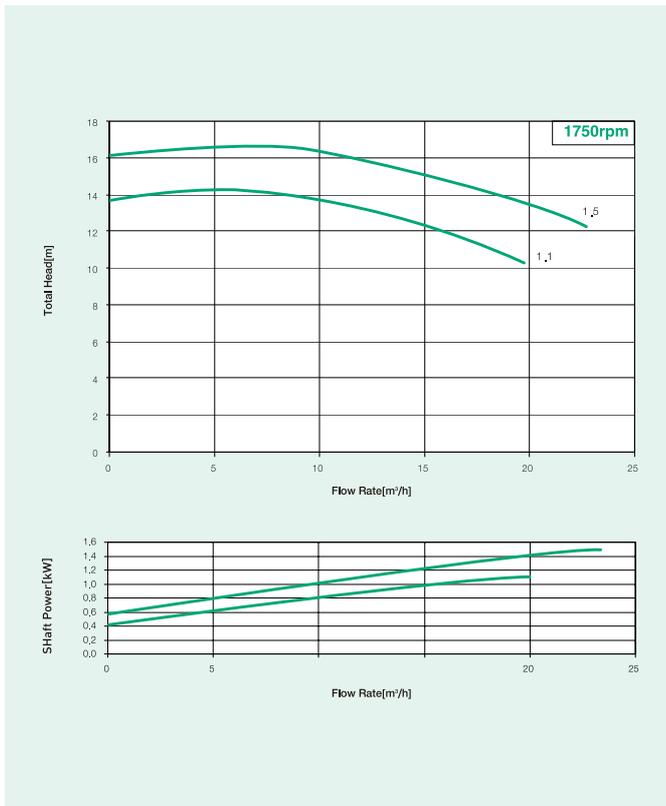
IL 32/170 Series



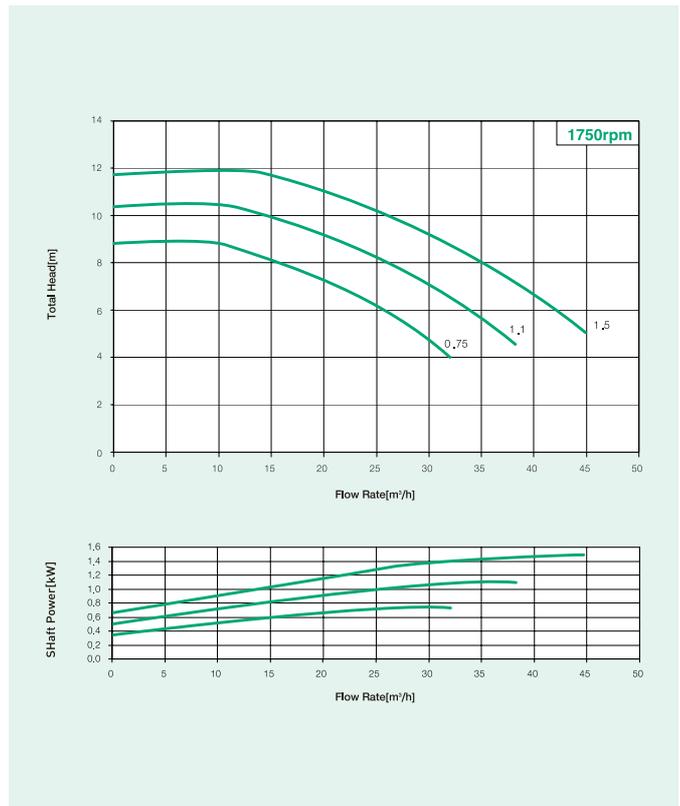
IL 40/170 Series



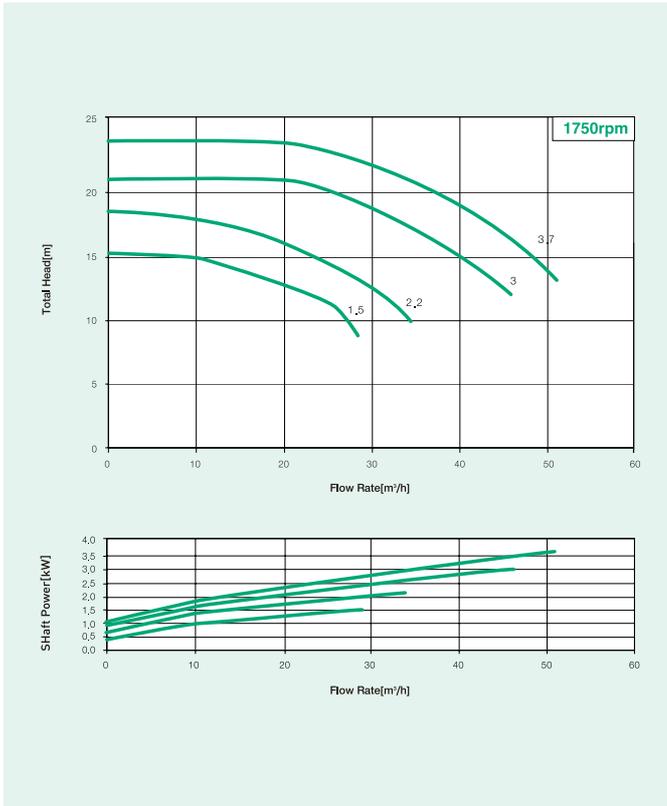
IL 40/220 Series



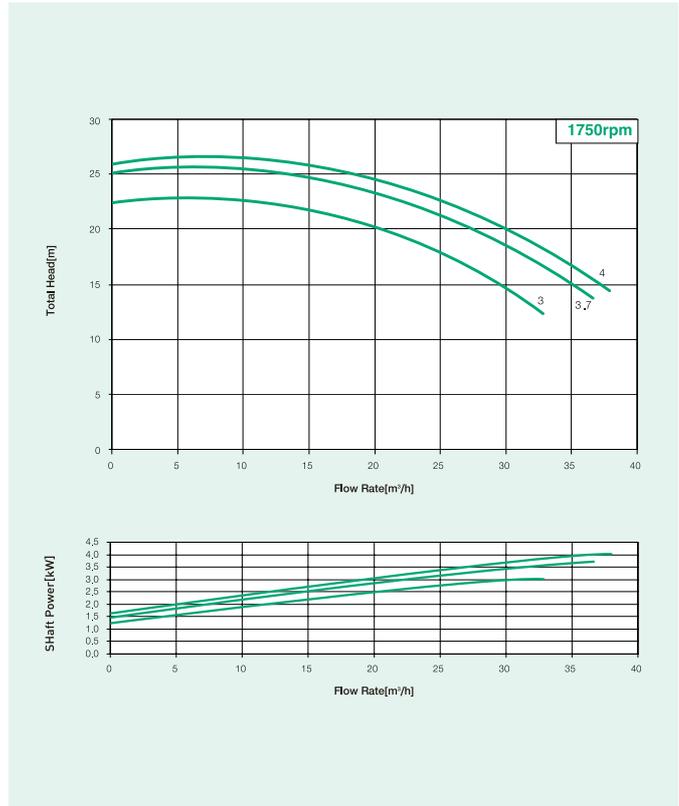
IL 50/170 Series



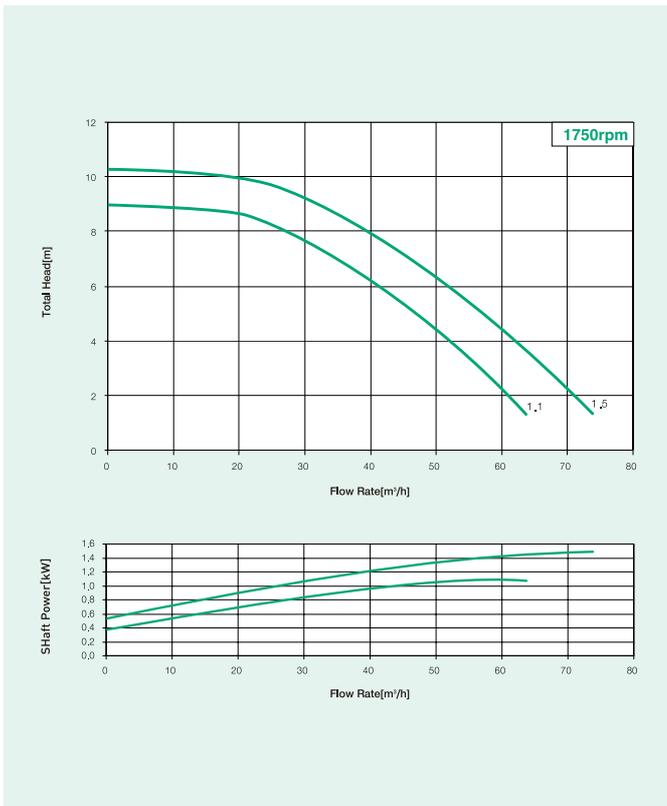
IL 50/220 Series



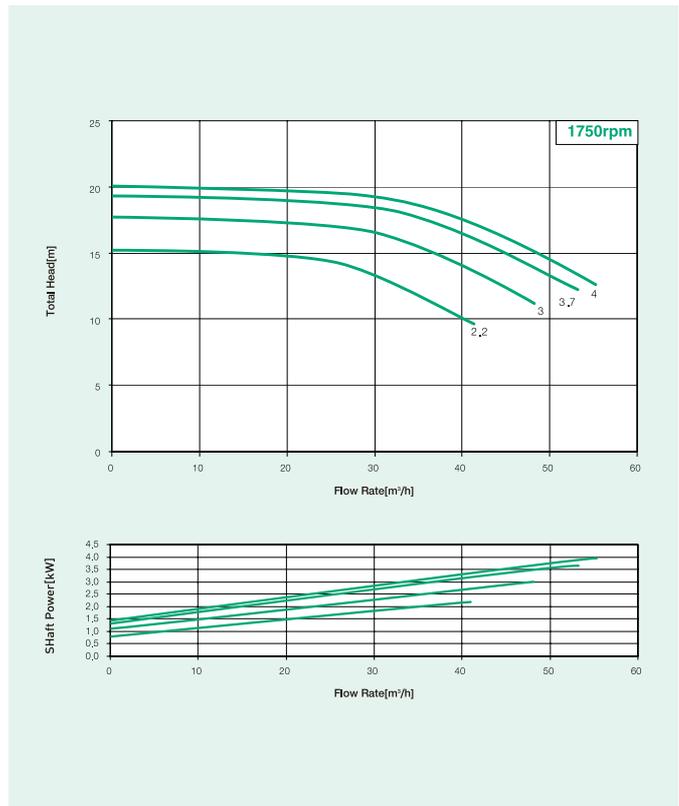
IL 50/270 Series



IL 65/170 Series



IL 65/220 Series



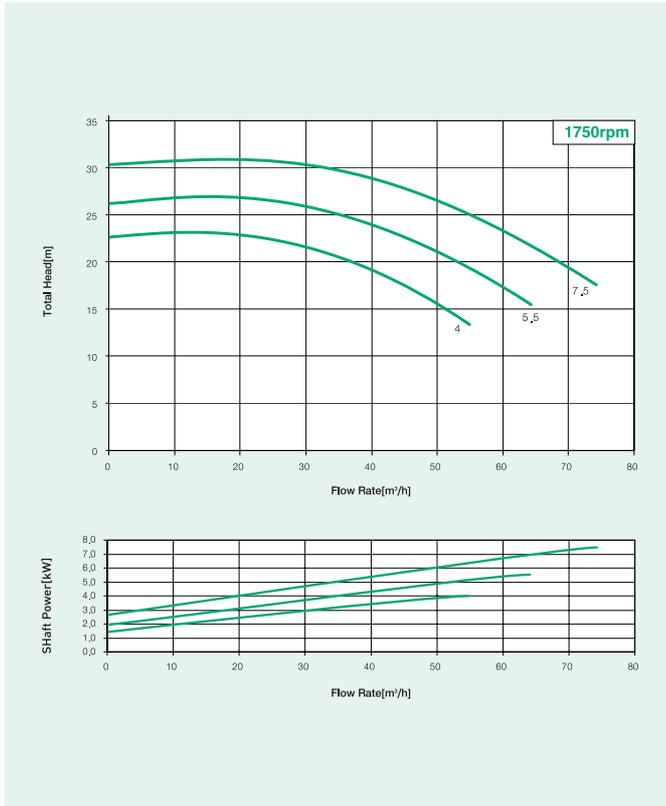
# In-Line Pumps

## IL Series

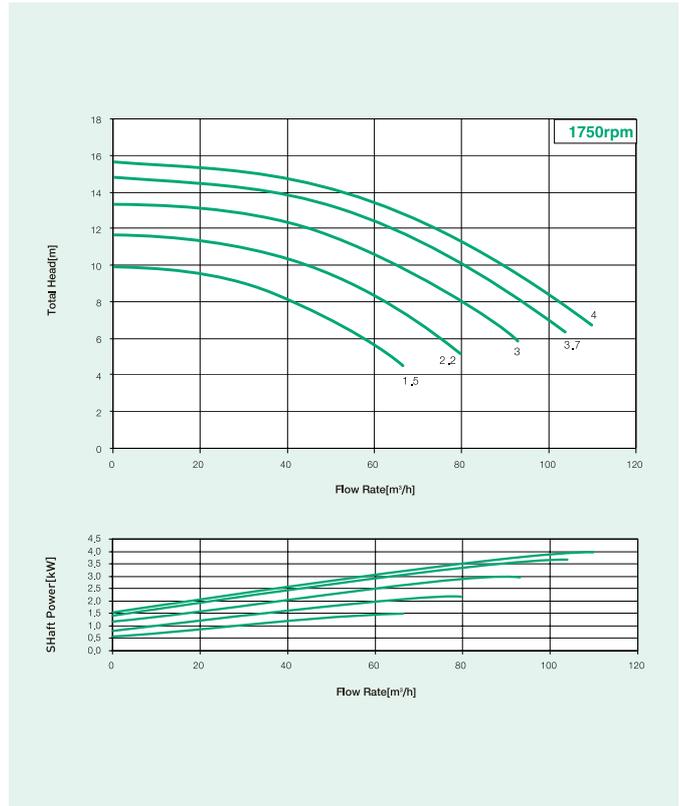


성능곡선 4pole

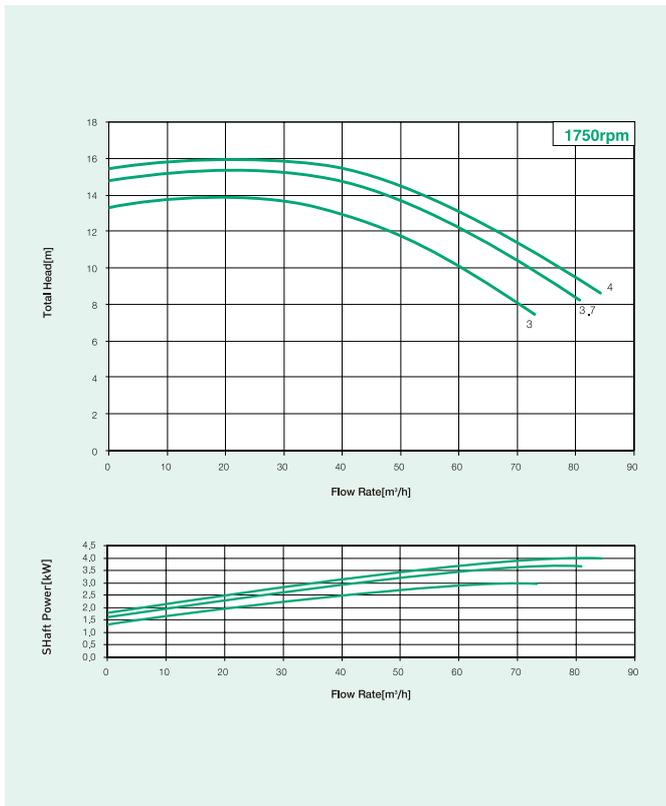
### IL 65/270 Series



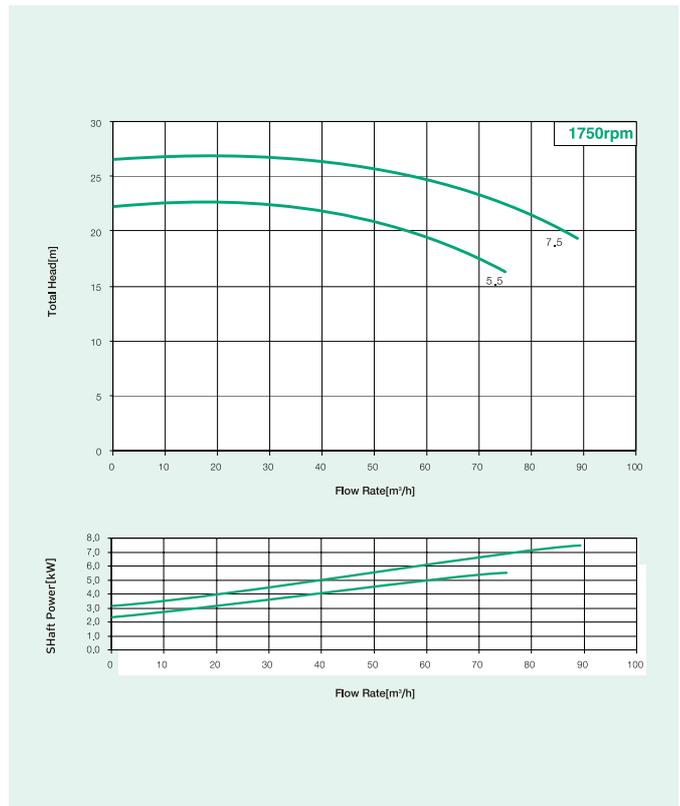
### IL 80/170 Series



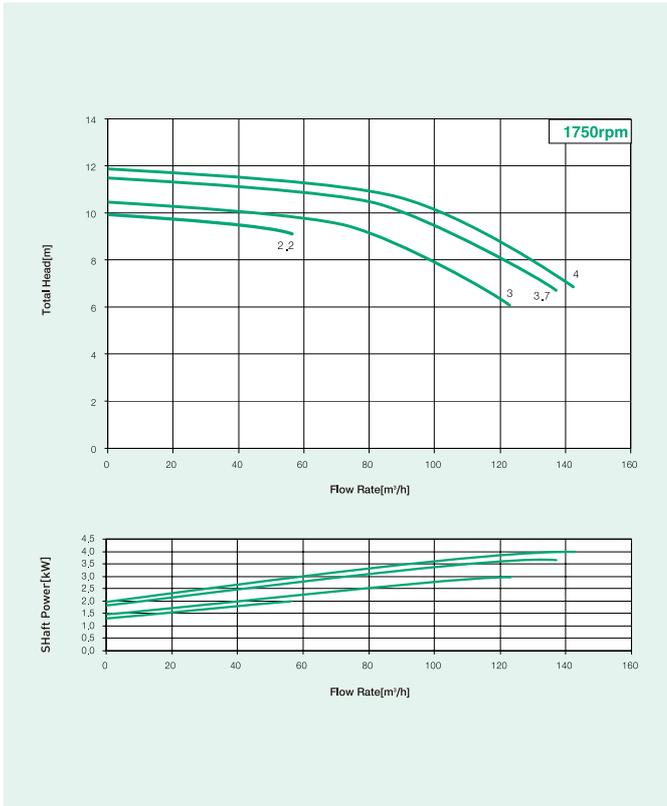
### IL 80/220 Series



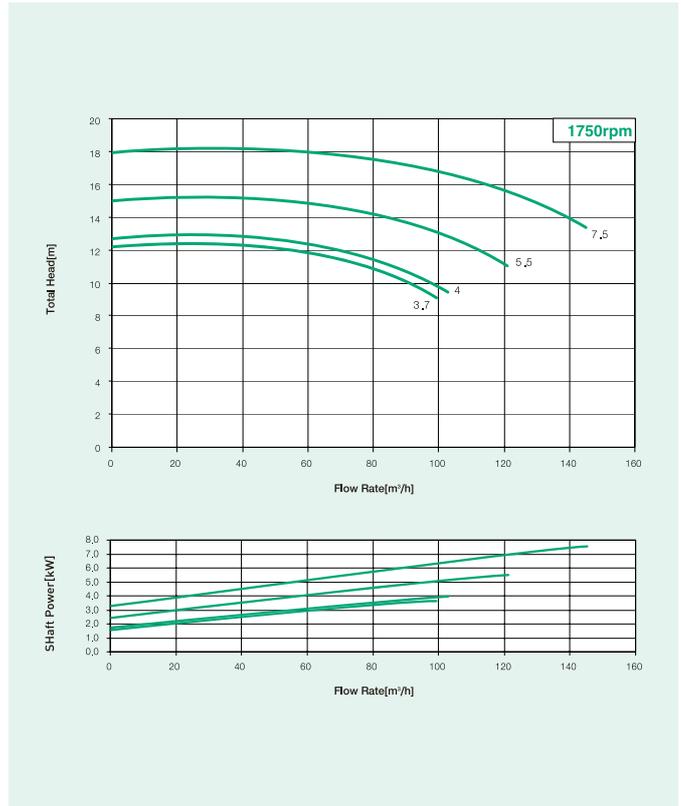
### IL 80/270 Series



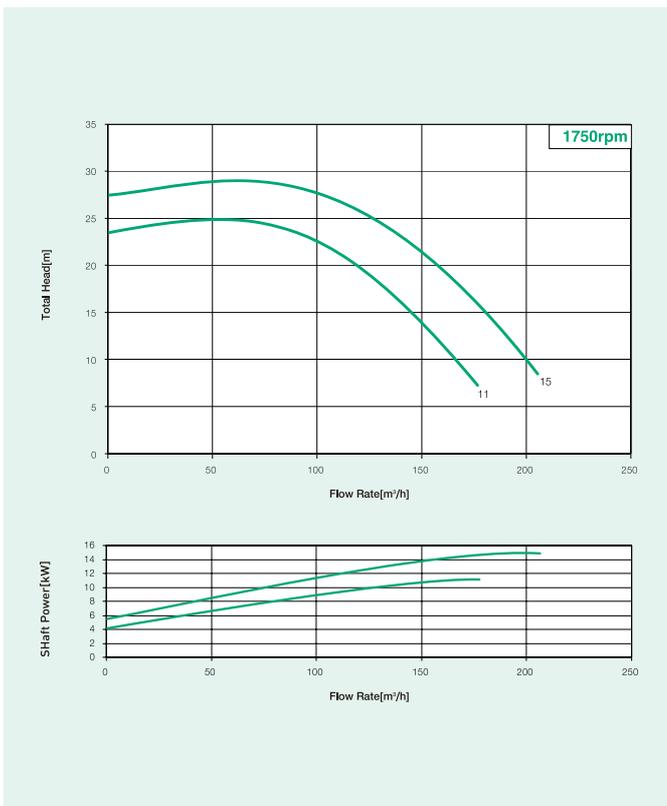
### IL 100/170 Series



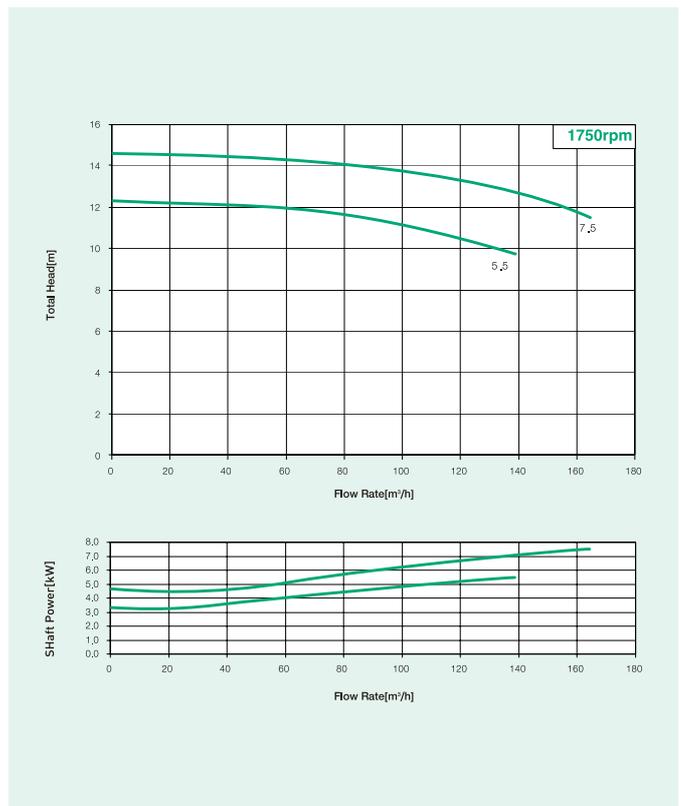
### IL 100/220 Series



### IL 100/270 Series



### IL 125/220 Series



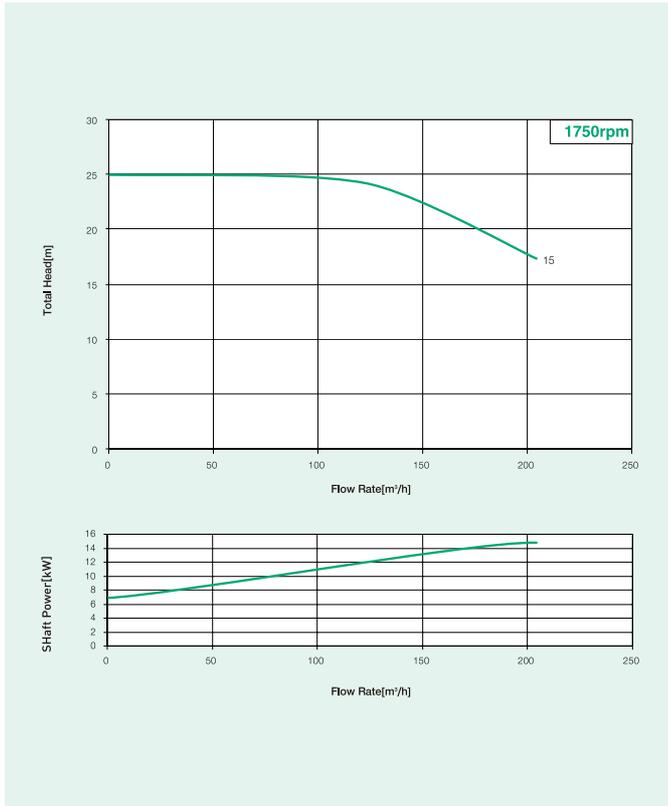
# In-Line Pumps

## IL Series

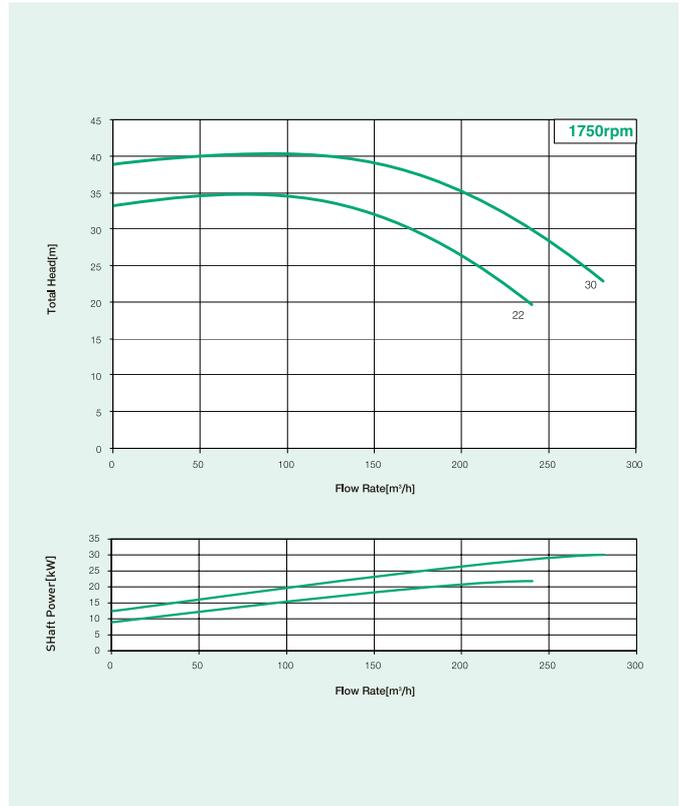


성능곡선 4pole

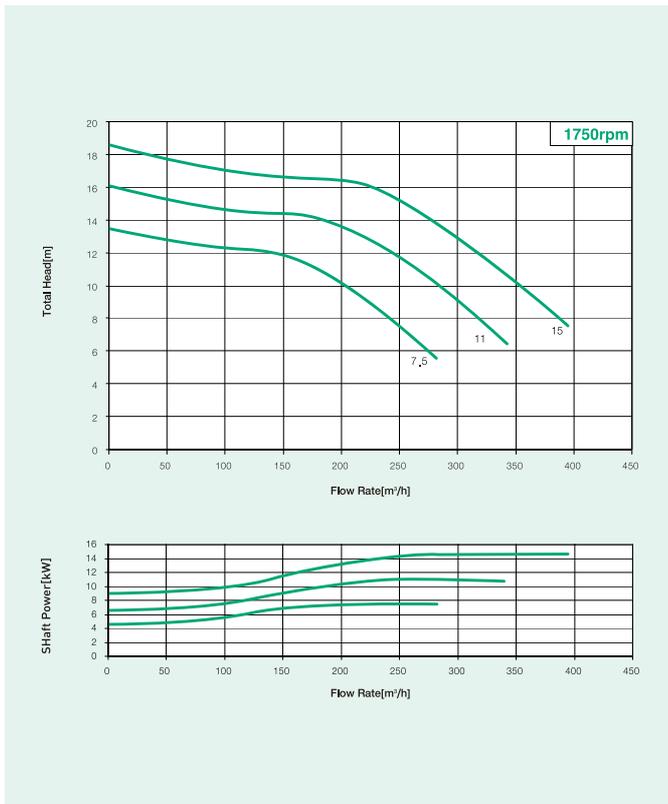
IL 125/270 Series



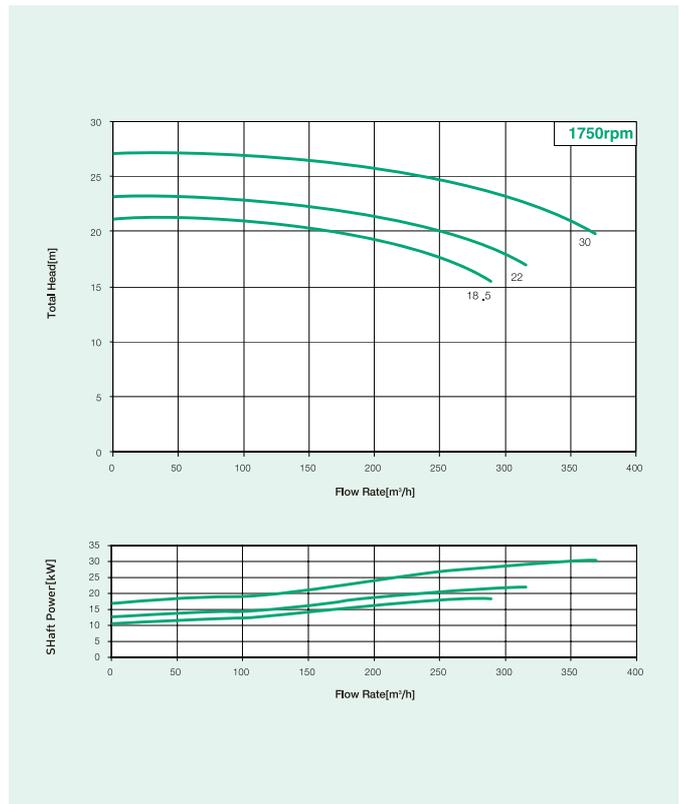
IL 125/340 Series



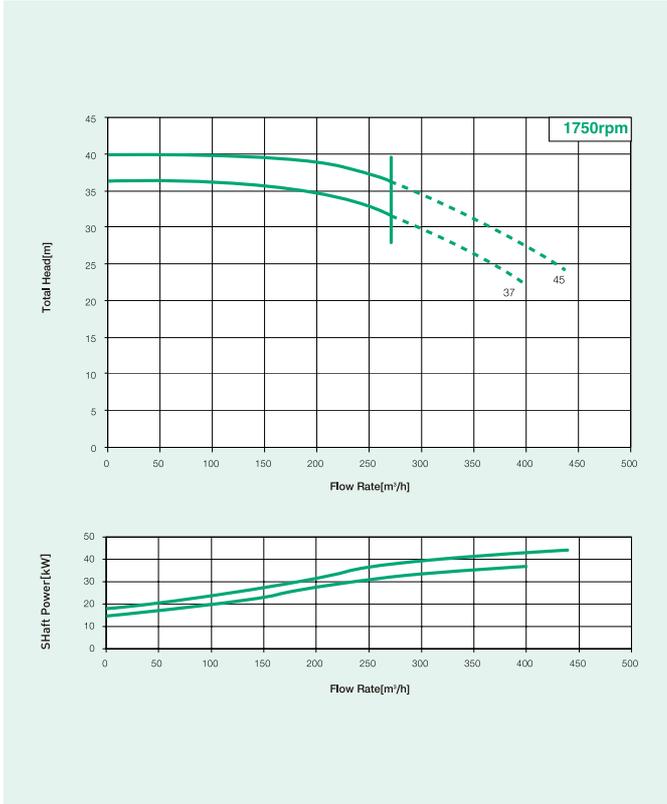
IL 150/220 Series



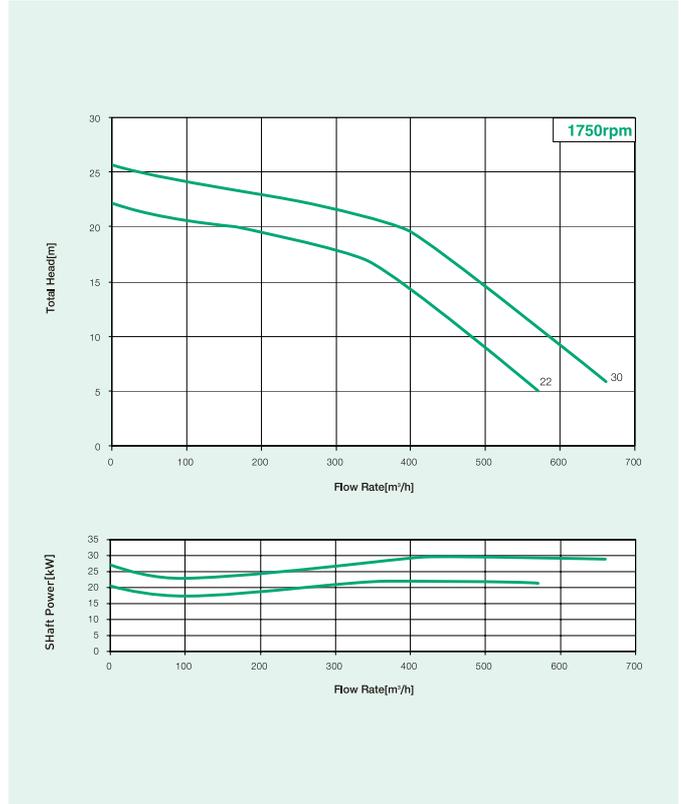
IL 150/270 Series



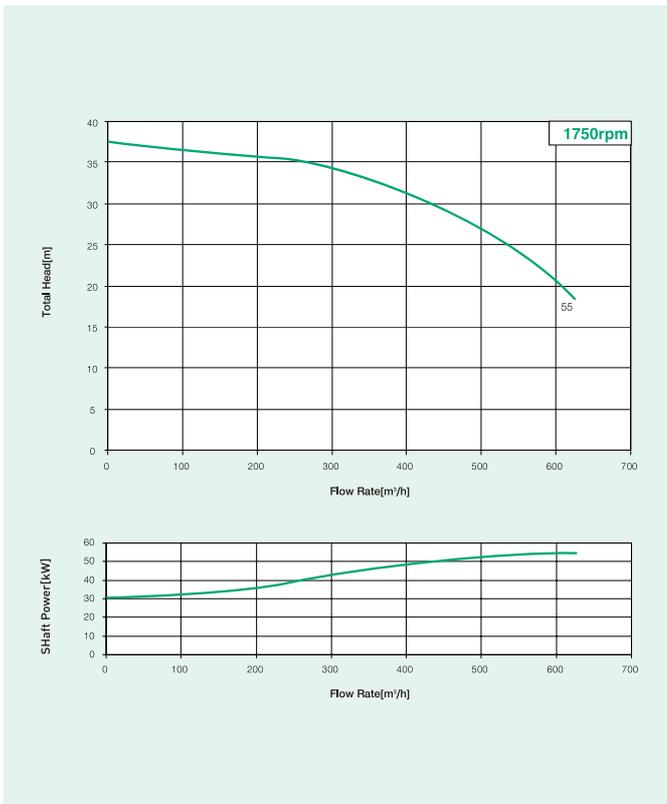
### IL 150/340 Series



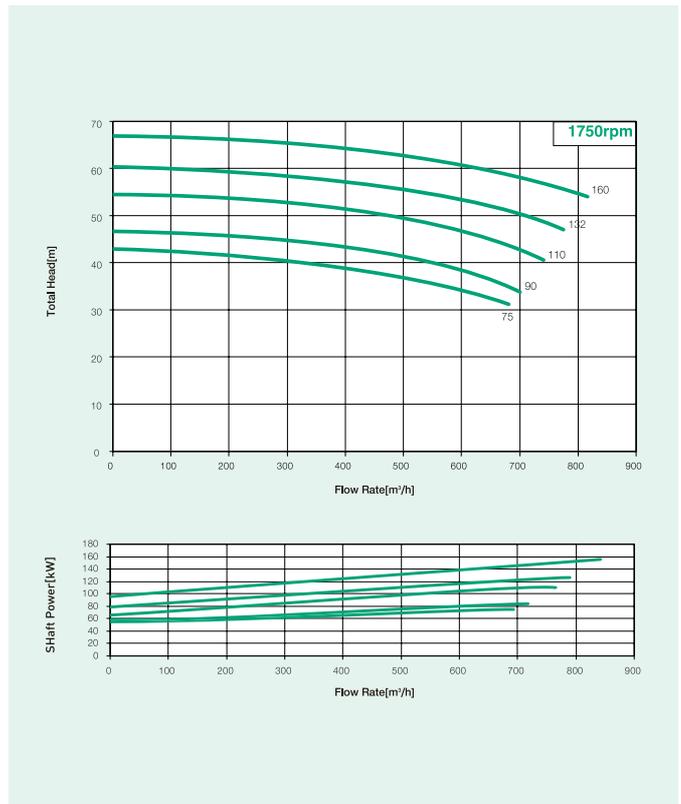
### IL 200/270 Series



### IL 200/340 Series



### IL 250/420 Series



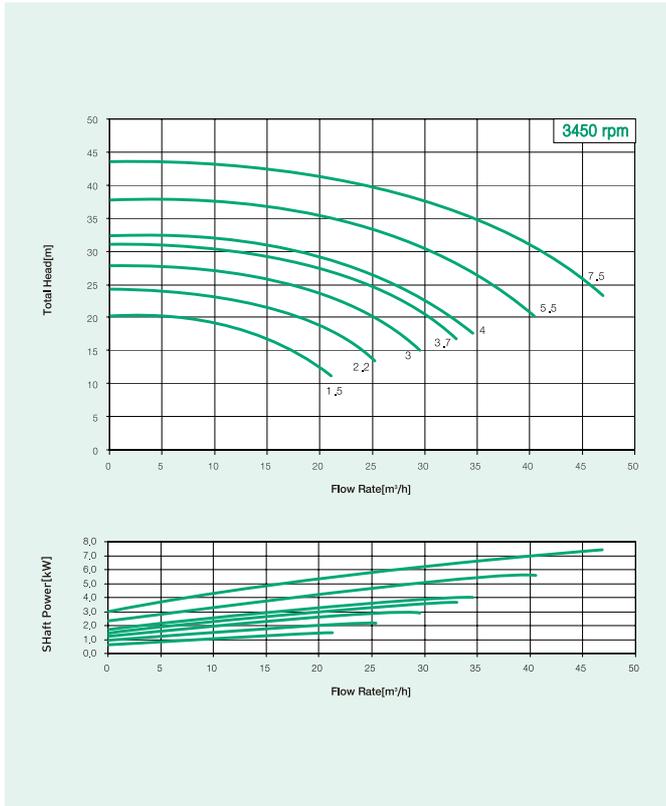
# In-Line Pumps

## IL Series

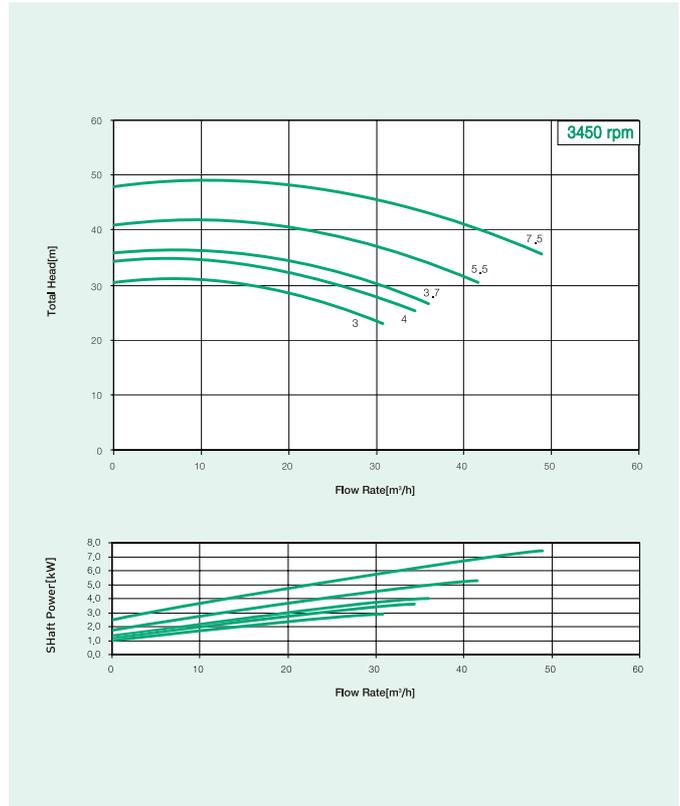


성능곡선 2pole

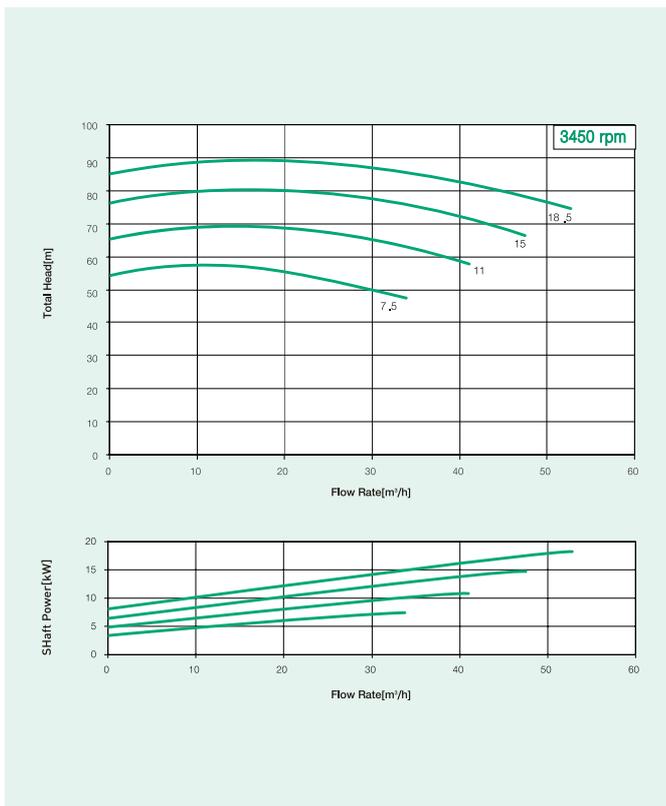
### IL 32/170 Series



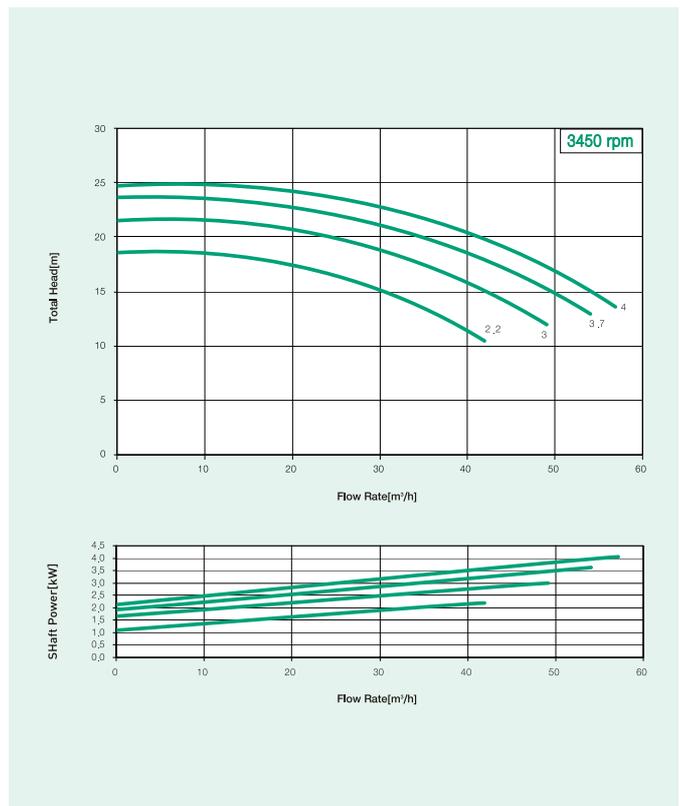
### IL 40/170 Series



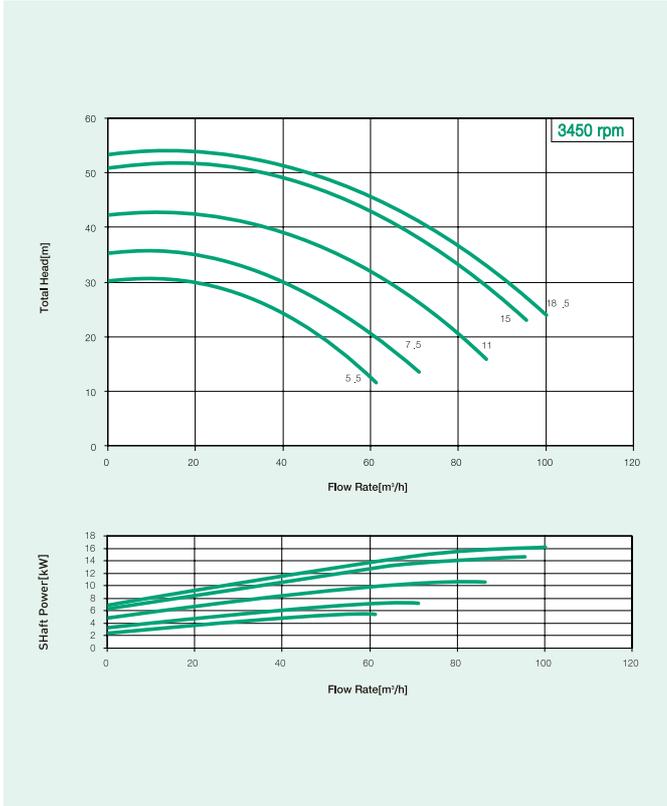
### IL 40/220 Series



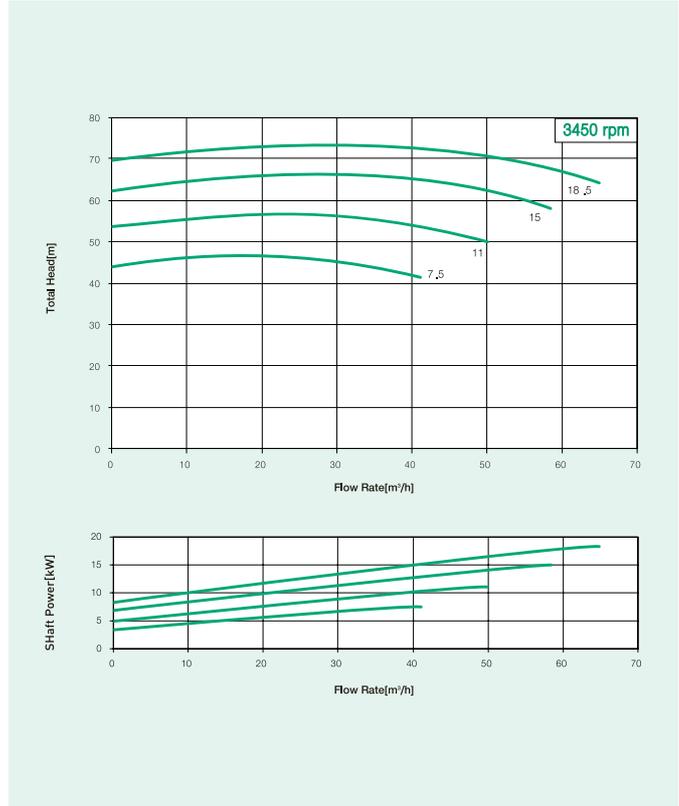
### IL 50/140 Series



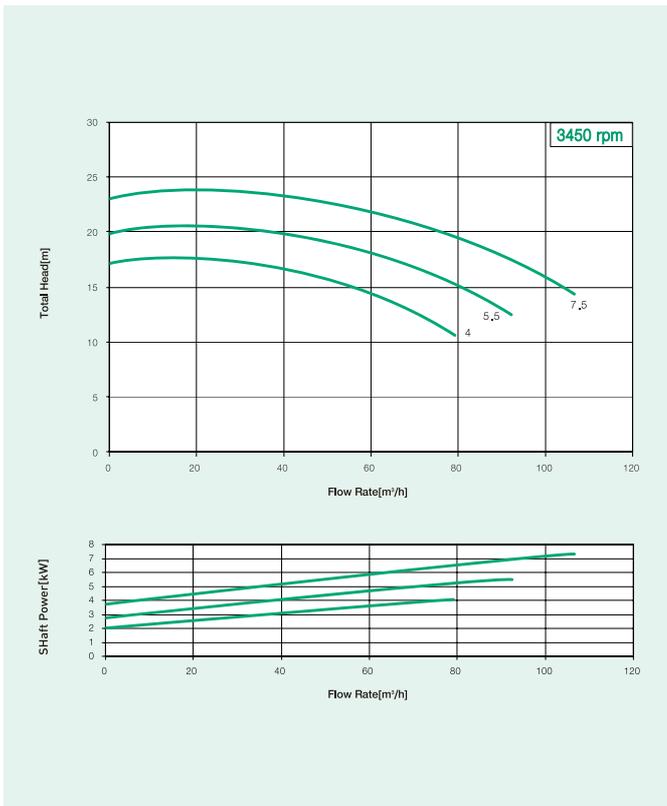
### IL 50/170 Series



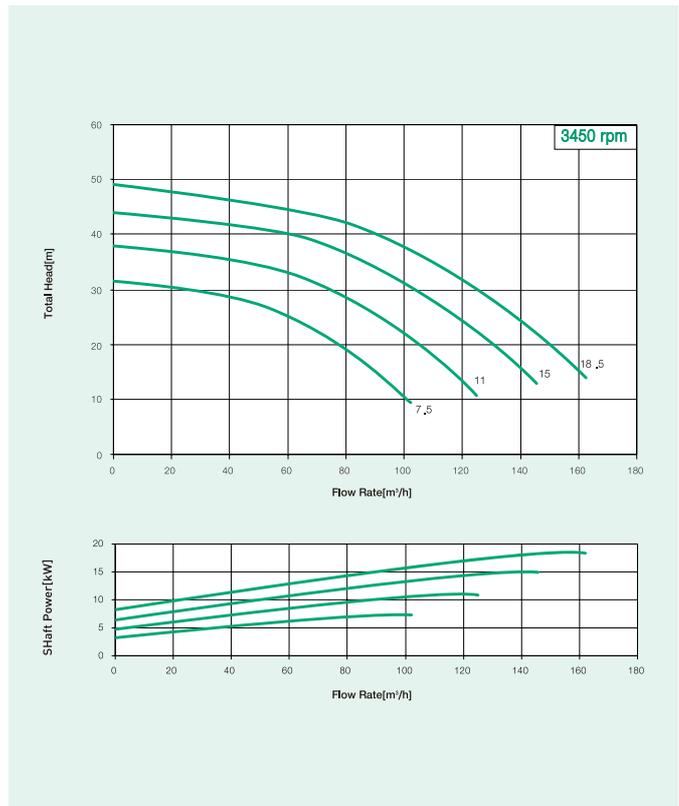
### IL 50/220 Series



### IL 65/140 Series



### IL 65/170 Series



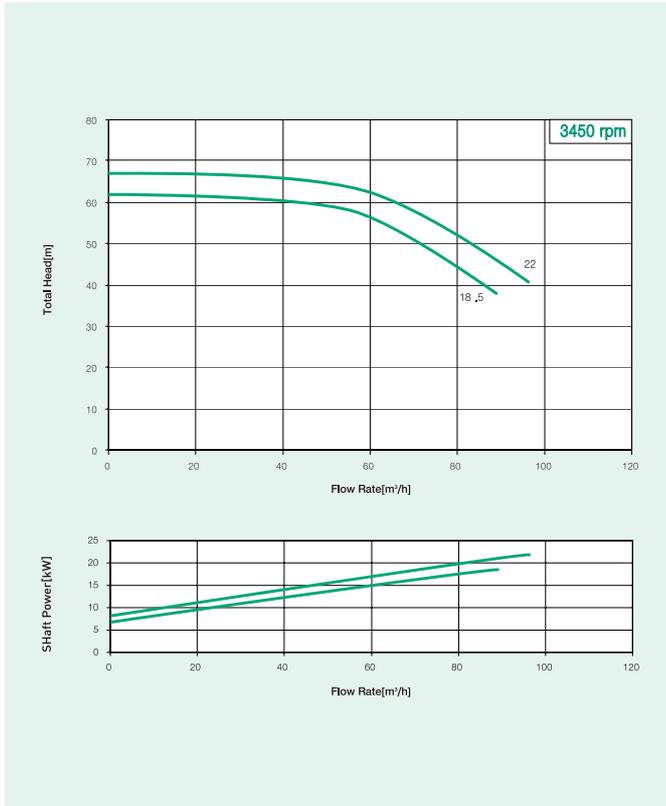
# In-Line Pumps

## IL Series

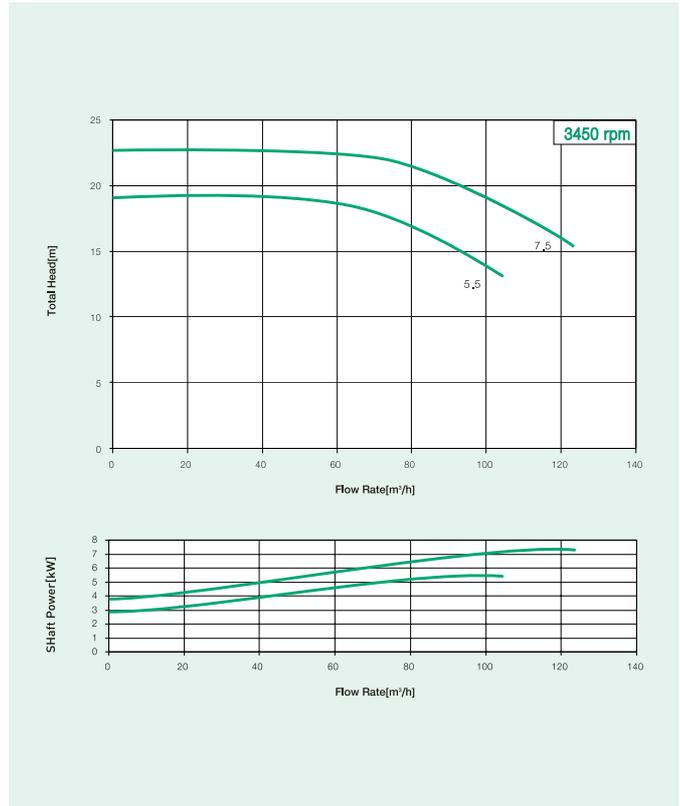


성능곡선 2pole

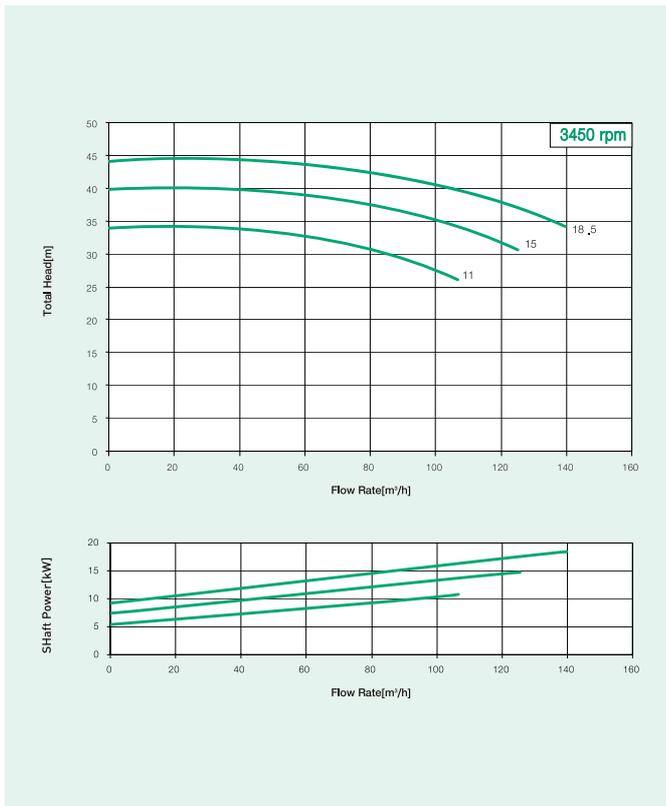
### IL 65/220 Series



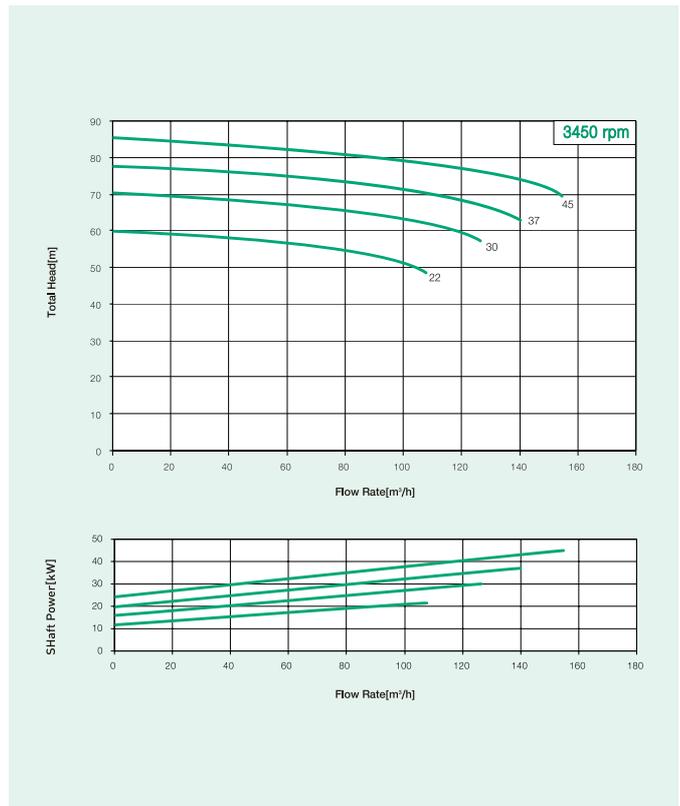
### IL 80/140 Series



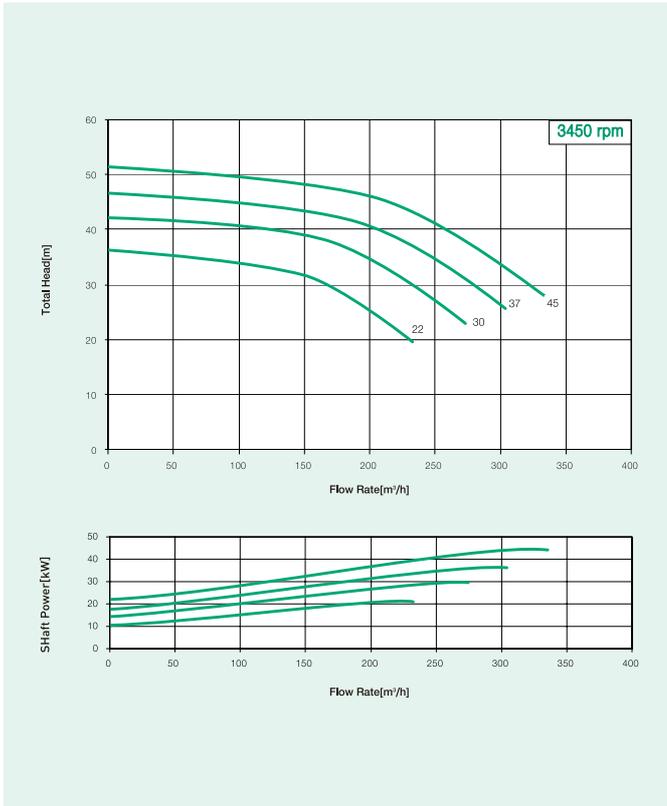
### IL 80/170 Series



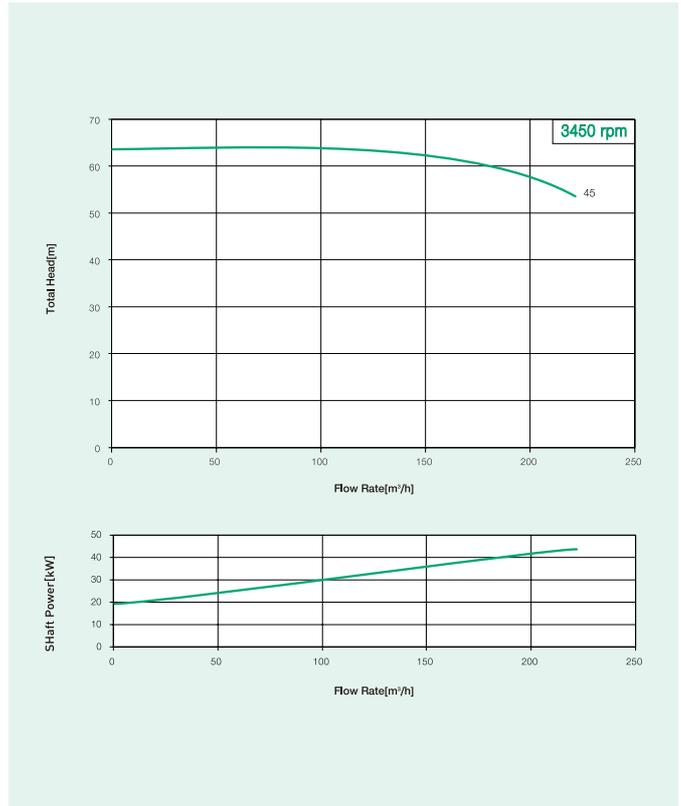
### IL 80/220 Series



### IL 100/170 Series



### IL 100/220 Series



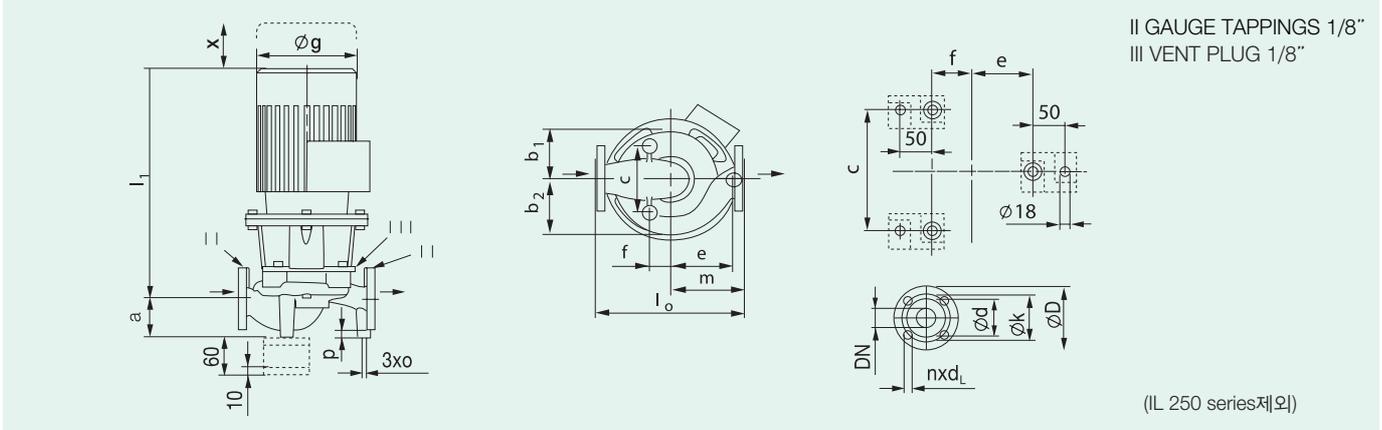
# In-Line Pumps

## IL Series



### 외형도 및 치수

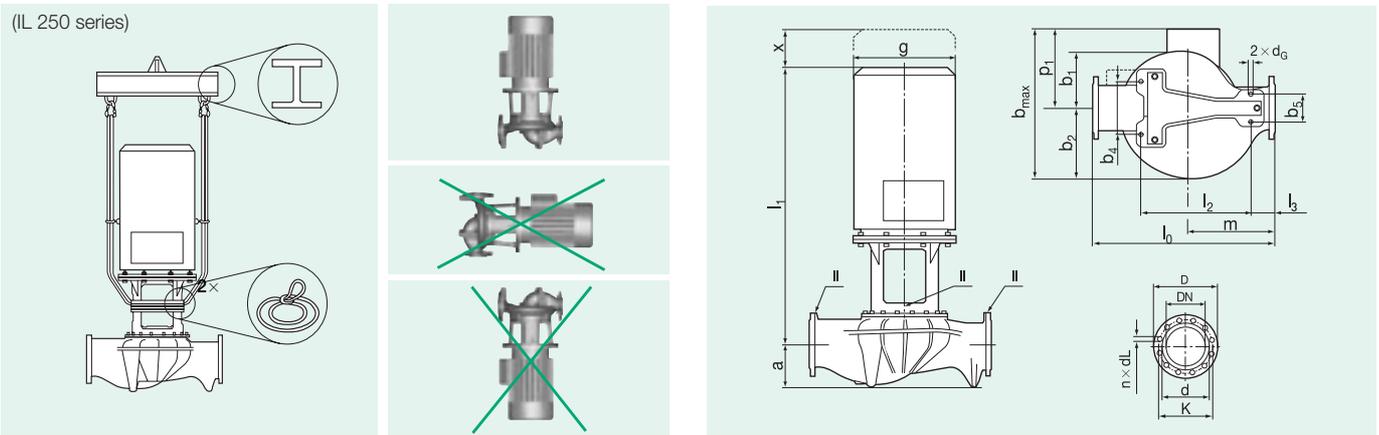
#### 외형도



#### 이동과 설치

#### 외형도(IL 250 series)

(IL 250 series)



#### IL 250 series 치수 및 모터 DATA

Type	DN	a	b <sub>1</sub>	b <sub>2</sub>	b <sub>4</sub>	b <sub>5</sub>	b <sub>max</sub>	d <sub>G</sub>	g	-l <sub>1</sub> max	l <sub>2</sub>	l <sub>3</sub>	l <sub>0</sub>	m	p1	x	~ Net Weight	
										[mm]								[kg]
I L250 / 420 -75 /4	250	321	369	454	340	180	906	24	514	1500	700	150	1150	557	440	190	1150	
I L250 / 420 -90 /4	250	321	369	454	340	180	906	24	514	1600	700	150	1150	557	440	190	1200	
I L250 / 420 -110 /4	250	321	369	454	340	180	982	24	600	1700	700	150	1150	557	528	190	1400	
I L250 / 420 -132 /4	250	321	369	454	340	180	1004	24	610	1870	700	150	1150	557	550	190	1450	
I L250 / 420 -160 /4	250	321	369	454	340	180	1019	24	656	1890	700	150	1150	557	565	190	1500	

#### 플랜지 규격

Pumphousing Flange EN 1092-2

DN	øD	ød	øk	n x d <sub>L</sub>
	mm			
	Number x mm			
32	140	76	100	4 x 19
40	150	84	110	4 x 19
50	165	99	125	4 x 19
65	185	118	145	4 x 19
80	200	132	160	8 x 19
100	220	156	180	8 x 19
125	250	184	210	8 x 19
150	285	211	240	8 x 23
200	340	266	295	12 x 23
250	405	319	355	12 x 28

Ty pe	DN	a	b <sub>1</sub>	b <sub>2</sub>	c	e	f	g <sub>1</sub>	l <sub>0</sub>	~l <sub>1</sub>	m	o	p	x	~ Net Weight
															[kg]
[mm]															
IL32 / 170 -0.4/4	32	100	112	124	120	132	68	132	320	402	155	M10	20	90	45
IL32 / 170 -0.55/4	32	100	112	124	120	132	68	175	320	420	155	M10	20	90	45
IL32 / 170 -0.75/4	32	100	112	124	120	132	68	175	320	420	155	M10	20	90	46
IL32 / 170 -1.1/4	32	100	112	124	120	132	68	193	320	486	155	M10	20	90	51
IL32 / 170 -1.5/4	32	100	112	124	120	132	68	193	320	486	155	M10	20	90	51
IL40 / 170 -0.4/4	40	82	113	129	130	149	58	132	340	435	170	M10	20	95	49
IL40 / 170 -0.55/4	40	82	113	129	130	149	58	175	340	435	170	M10	20	95	49
IL40 / 170 -0.75/4	40	82	113	129	130	149	58	175	340	435	170	M10	20	95	50
IL40 / 170 -1.1/4	40	82	113	129	130	149	58	193	340	435	170	M10	20	95	55
IL40 / 170 -1.5/4	40	82	113	129	130	149	58	193	340	435	170	M10	20	95	55
IL40 / 220 -1.1/4	40	110	145	149	180	172	78	193	440	467	190	M10	20	100	58
IL40 / 220 -1.5/4	40	110	145	149	180	172	78	193	440	467	190	M10	20	100	58
IL50 / 170 -0.75/4	50	103	120	139	164	143	48	175	340	479	170	M10	20	100	51
IL50 / 170 -1.1/4	50	103	120	139	164	143	48	193	340	479	170	M10	20	100	56
IL50 / 170 -1.5/4	50	103	120	139	164	143	48	193	340	479	170	M10	20	100	56
IL50 / 220 -1.5/4	50	120	145	150	160	170	70	193	440	456	190	M10	20	100	60
IL50 / 220 -2.2/4	50	120	145	150	160	170	70	236	440	502	190	M10	20	100	70
IL50 / 220 -3/4	50	120	145	150	160	170	70	236	440	502	190	M10	20	100	74
IL50 / 220 -3.7/4	50	120	145	150	160	170	70	236	440	502	190	M10	20	100	77
IL50 / 270 -3/4	50	122	174	178	200	200	70	236	440	542	220	M10	15	120	87
IL50 / 270 -3.7/4	50	122	174	178	200	200	70	236	440	542	220	M10	15	120	90
IL50 / 270 -4/4	50	122	174	178	200	200	70	236	440	542	220	M10	15	120	91
IL65 / 170 -1.1/4	65	110	127	147	180	195	60	193	430	485	215	M12	20	120	60
IL65 / 170 -1.5/4	65	110	127	147	180	195	60	193	430	485	215	M12	20	120	60
IL65 / 220 -2.2/4	65	130	150	168	200	225	50	236	475	511	245	M12	20	110	75
IL65 / 220 -3/4	65	130	150	168	200	225	50	236	475	511	245	M12	20	110	79
IL65 / 220 -3.7/4	65	130	150	168	200	225	50	236	475	511	245	M12	20	110	82
IL65 / 220 -4/4	65	130	150	168	200	225	50	236	475	511	245	M12	20	110	83
IL65 / 270 -4/4	65	140	174	187	200	215	80	236	475	569	235	M12	20	110	87
IL65 / 270 -5.5/4	65	140	174	187	200	215	80	274	475	624	235	M12	20	120	106
IL65 / 270 -7.5/4	65	140	174	187	200	215	80	274	475	624	235	M12	20	120	116
IL80 / 170 -1.5/4	80	120	136	162	180	173	72	193	440	483	200	M12	20	120	73
IL80 / 170 -2.2/4	80	120	136	162	180	173	72	236	440	529	200	M12	20	120	83
IL80 / 170 -3/4	80	120	136	162	180	173	72	236	440	529	200	M12	20	120	87
IL80 / 170 -3.7/4	80	120	136	162	180	173	72	236	440	529	200	M12	20	120	90
IL80 / 170 -4/4	80	120	136	162	180	173	72	236	440	529	200	M12	20	120	91
IL80 / 220 -3/4	80	145	157	182	220	208	62	236	500	533	230	M12	20	120	91
IL80 / 220 -3.7/4	80	145	157	182	220	208	62	236	500	533	230	M12	20	120	94
IL80 / 220 -4/4	80	145	157	182	220	208	62	236	500	533	230	M12	20	120	95
IL80 / 270 -5.5/4	80	125	180	202	240	223	102	274	500	611	245	M12	20	115	107
IL80 / 270 -7.5/4	80	125	180	202	240	223	102	274	500	611	245	M12	20	115	117
IL100 / 170 -2.2/4	100	120	158	196	200	226	60	236	500	551	250	M12	20	135	96
IL100 / 170 -3/4	100	120	158	196	200	226	60	236	500	551	250	M12	20	135	100
IL100 / 170 -3.7/4	100	120	158	196	200	226	60	236	500	551	250	M12	20	135	103
IL100 / 170 -4/4	100	120	158	196	200	226	60	236	500	551	250	M12	20	135	104
IL100 / 220 -3.7/4	100	155	173	202	220	231	99	236	550	566	255	M12	20	110	91
IL100 / 220 -4/4	100	155	173	202	220	231	99	236	550	566	255	M12	20	110	92
IL100 / 220 -5.5/4	100	155	173	202	220	231	99	274	550	621	255	M12	20	120	111
IL100 / 220 -7.5/4	100	155	173	202	220	231	99	274	550	621	255	M12	20	120	121
IL100 / 270 -11/4	100	180	188	214	240	236	114	317	550	813	260	M12	20	120	177
IL100 / 270 -15/4	100	180	188	214	240	236	114	317	550	813	260	M12	20	120	177
IL125 / 220 -5.5/4	125	175	177	212	280	266	54	274	620	633	292	M16	25	120	135
IL125 / 220 -7.5/4	125	175	177	212	280	266	54	274	620	633	292	M16	25	120	145
IL125 / 270 -15/4	125	200	232	264	250	254	125	317	620	826	280	M16	25	130	216
IL125 / 340 -22/4	125	185	238	270	280	315	140	365	700	883	340	M16	25	140	313
IL125 / 340 -30/4	125	185	238	270	280	315	140	365	700	909	340	M16	25	140	333
IL150 / 220 -7.5/4	150	200	202	249	260	284	116	274	700	700	310	M16	30	130	137
IL150 / 220 -11/4	150	200	202	249	260	284	116	317	700	794	310	M16	30	130	212
IL150 / 220 -15/4	150	200	202	249	260	284	116	317	700	794	310	M16	30	130	212
IL150 / 270 -18.5/4	150	230	278	320	288	304	146	365	700	876	330	M16	25	135	312
IL150 / 270 -22/4	150	230	278	320	288	304	146	365	700	876	330	M16	25	135	322
IL150 / 270 -30/4	150	230	278	320	288	304	146	365	700	902	330	M16	25	135	342
IL150 / 340 -37/4	150	230	300	337	300	344	150	384	770	1099	370	M16	25	145	455
IL150 / 340 -45/4	150	230	300	337	300	344	150	384	770	1106	370	M16	25	145	475
IL200 / 270 -22/4	200	245	281	362	330	270	165	365	800	913	370	M16	30	140	435
IL200 / 270 -30/4	200	245	281	362	330	270	165	365	800	939	370	M16	30	140	455
IL200 / 340 -55/4	200	245	322	370	360	370	180	514	820	1134	400	M16	30	155	668

<sup>1</sup> 적용 모터에 따라 치수가 달라질 수 있음. (Expected differences are dependent on motor supplier)

<sup>2</sup> 상기 자료는 성능 향상 등을 위해 변경될 수 있음.

# In-Line Pumps

## IL Series

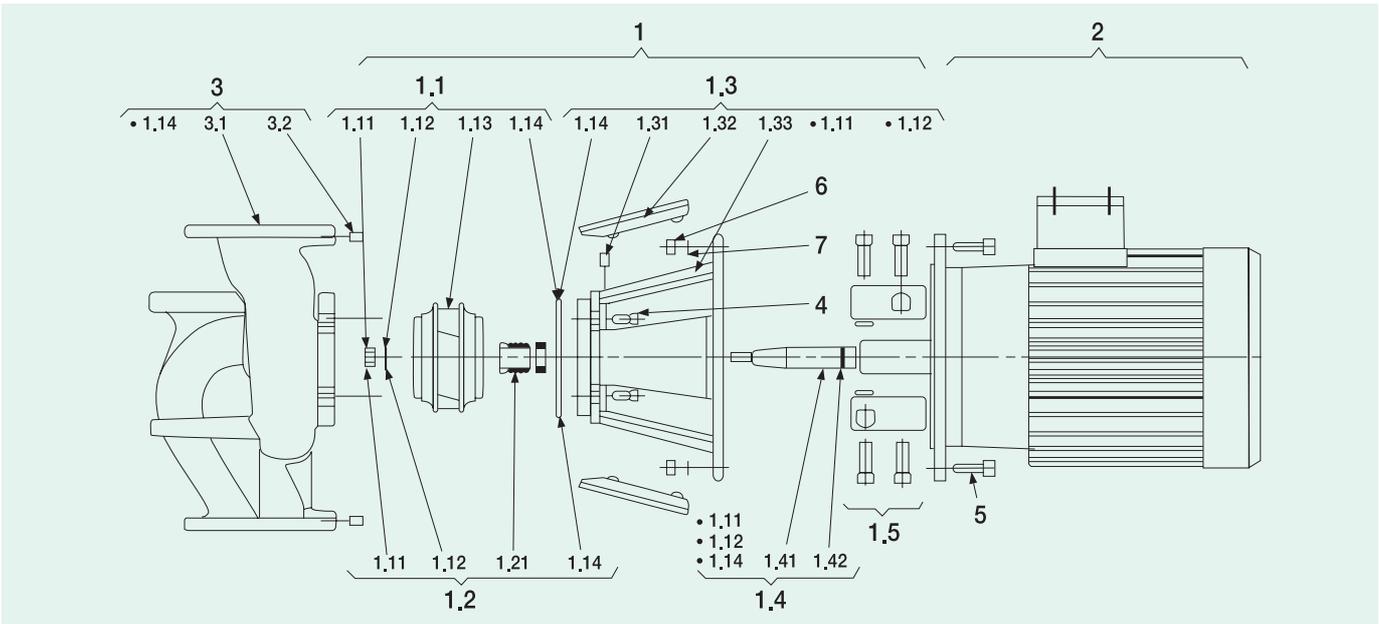


### 외형치수 2pole

Type	DN	a	b <sub>1</sub>	b <sub>2</sub>	c	e	f	g <sub>1</sub>	l <sub>0</sub>	~l <sub>1</sub>	m	o	p	x	~ Net Weight [kg]
		[mm]													
IL32 / 170 -1,5/2	32	100	112	124	120	132	68	193	320	450	155	M10	20	90	50
IL32 / 170 -2,2/2	32	100	112	124	120	132	68	193	320	492	155	M10	20	90	59
IL32 / 170 -3/2	32	100	112	124	120	132	68	193	320	492	155	M10	20	90	63
IL32 / 170 -3,7/2	32	100	112	124	120	132	68	193	320	492	155	M10	20	90	66
IL32 / 170 -4/2	32	100	112	124	120	132	68	193	320	492	155	M10	20	90	67
IL32 / 170 -5,5/2	32	100	112	124	120	132	68	236	320	542	155	M10	20	90	87
IL32 / 170 -7,5/2	32	100	112	124	120	132	68	236	320	542	155	M10	20	90	97
IL40 / 170 -3/2	40	82	113	129	130	149	58	193	340	520	170	M10	20	95	67
IL40 / 170 -3,7/2	40	82	113	129	130	149	58	193	340	520	170	M10	20	95	70
IL40 / 170 -4/2	40	82	113	129	130	149	58	193	340	520	170	M10	20	95	74
IL40 / 170 -5,5/2	40	82	113	129	130	149	58	236	340	570	170	M10	20	95	94
IL40 / 170 -7,5/2	40	82	113	129	130	149	58	236	340	570	170	M10	20	95	104
IL40 / 220 -7,5/2	40	110	145	149	180	172	78	236	440	700	190	M10	20	100	115
IL40 / 220 -11/2	40	110	145	149	180	172	78	274	440	741	190	M10	20	100	128
IL40 / 220 -15/2	40	110	145	149	180	172	78	274	440	741	190	M10	20	100	130
IL40 / 220 -18,5/2	40	110	145	149	180	172	78	317	440	800	190	M10	20	100	140
IL50 / 140 -2,2/2	50	105	102	119	140	130	40	193	340	496	150	M10	20	100	68
IL50 / 140 -3/2	50	105	102	119	140	130	40	193	340	496	150	M10	20	100	71
IL50 / 140 -3,7/2	50	105	102	119	140	130	40	193	340	496	150	M10	20	100	74
IL50 / 140 -4/2	50	105	102	119	140	130	40	193	340	496	150	M10	20	100	77
IL50 / 170 -5,5/2	50	103	120	139	164	143	48	236	340	633	170	M10	20	100	95
IL50 / 170 -7,5/2	50	103	120	139	164	143	48	236	340	633	170	M10	20	100	98
IL50 / 170 -11/2	50	103	120	139	164	143	48	274	340	633	170	M10	20	100	103
IL50 / 170 -15/2	50	120	145	150	160	170	70	274	440	673	190	M10	20	100	115
IL50 / 170 -18,5/2	50	120	145	150	160	170	70	317	440	673	190	M10	20	100	120
IL50 / 220 -7,5/2	50	120	145	150	160	170	70	236	440	722	190	M10	20	100	125
IL50 / 220 -11/2	50	120	145	150	160	170	70	274	440	742	190	M10	20	100	138
IL50 / 220 -15/2	50	120	145	150	160	170	70	274	440	742	190	M10	20	100	143
IL50 / 220 -18,5/2	50	120	145	150	160	170	70	317	440	782	190	M10	20	100	170
IL65 / 140 -4/2	50	120	112	134	140	140	60	193	340	598	160	M12	20	110	83
IL65 / 140 -5,5/2	50	120	112	134	140	140	60	236	340	598	160	M12	20	110	87
IL65 / 140 -7,5/2	50	120	112	134	140	140	60	236	340	598	160	M12	20	110	91
IL65 / 170 -7,5/2	65	110	127	147	180	195	60	236	430	721	215	M12	20	120	122
IL65 / 170 -11/2	65	110	127	147	180	195	60	274	430	757	215	M12	20	120	127
IL65 / 170 -15/2	65	110	127	147	180	195	60	274	430	757	215	M12	20	120	137
IL65 / 170 -18,5/2	65	110	127	147	180	195	60	317	430	797	215	M12	20	120	147
IL65 / 220 -18,5/2	65	130	150	168	200	225	50	317	475	814	245	M12	20	110	174
IL65 / 220 -22/2	65	130	150	168	200	225	50	317	475	814	245	M12	20	110	184
IL80 / 140 -5,5/2	65	105	123	151	180	173	57	266	400	653	200	M12	20	120	97
IL80 / 140 -7,5/2	65	105	123	151	180	173	57	266	400	653	200	M12	20	120	102
IL80 / 170 -11/2	80	120	136	162	180	173	72	274	440	755	200	M12	20	120	137
IL80 / 170 -15/2	80	120	136	162	180	173	72	274	440	755	200	M12	20	120	147
IL80 / 170 -18,5/2	80	120	136	162	180	173	72	317	440	795	200	M12	20	120	157
IL80 / 220 -22/2	80	145	157	182	220	208	62	317	500	900	230	M12	20	120	326
IL80 / 220 -30/2	80	145	157	182	220	208	62	365	500	944	230	M12	20	120	346
IL80 / 220 -37/2	80	145	157	182	220	208	62	365	500	944	230	M12	20	120	356
IL80 / 220 -45/2	80	145	157	182	220	208	62	384	500	984	230	M12	20	120	386
IL100 / 170 -22/2	100	120	158	196	200	226	60	317	500	905	250	M12	20	135	324
IL100 / 170 -30/2	100	120	158	196	200	226	60	365	500	955	250	M12	20	135	344
IL100 / 170 -37/2	100	120	158	196	200	226	60	365	500	955	250	M12	20	135	354
IL100 / 170 -45/2	100	120	158	196	200	226	60	384	500	1015	250	M12	20	135	384
IL100 / 220 -45/2	100	155	173	202	220	231	99	384	550	994	255	M12	20	110	395

<sup>1</sup> 적용 모터에 따라 치수가 달라질 수 있음. (Expected differences are dependent on motor supplier)

<sup>2</sup> 상기 자료는 성능 향상 등을 위해 변경될 수 있음.



주기 : IL 250 series는 해당되지 않음

Description and Part Name		Standards	
1 Exchange set complete	1,1 Set impeller with	1,11 Nut	DIN934 A2
		1,12 Plain washer	DIN125 A2
		1,13 Impeller	EN-GJL200
		1,14 O-ring	EPDM
	1,2 Set mechanical seal with	1,11 Nut	DIN934 A2
		1,12 Plain washer	DIN125 A2
		1,14 O-ring	EPDM
	1,3 Set lantern with	1,21 Mechanical seal complete	AQ1EGG
		1,1 Nut	DIN934 A2
		1,12 Plain washer	DIN125 A2
		1,14 O-ring	EPDM
		1,31 Vent screw	CuZn39Pb2
	1,4 Set shaft with	1,32 Coupling protection cap	PA66
		1,33 Lantern	EN-GJL250
		1,11 Nut	DIN934 A2
1,12 Plain washer		DIN125 A2	
1,14 O-ring		EPDM	
1,5 Coupling complete	1,41 Shaft	1_4122	
	1,42 Snap ring	DIN7993 A2	
2 Motor		-	
3 Pumphousing complete with	1,14 O-ring	EPDM	
	3,1 Pump housing	EN-GJL250	
	3,2 Gauge plug	DIN906 8,8	
4 Fixing-screws lantern / pumphousing		DIN912 8,8	
5 Fixing-screws motor / lantern		DIN912 8,8	
6 Fixing-nut motor / lantern		DIN934 8	
7 Plain washer motor / lantern		DIN125 ST	

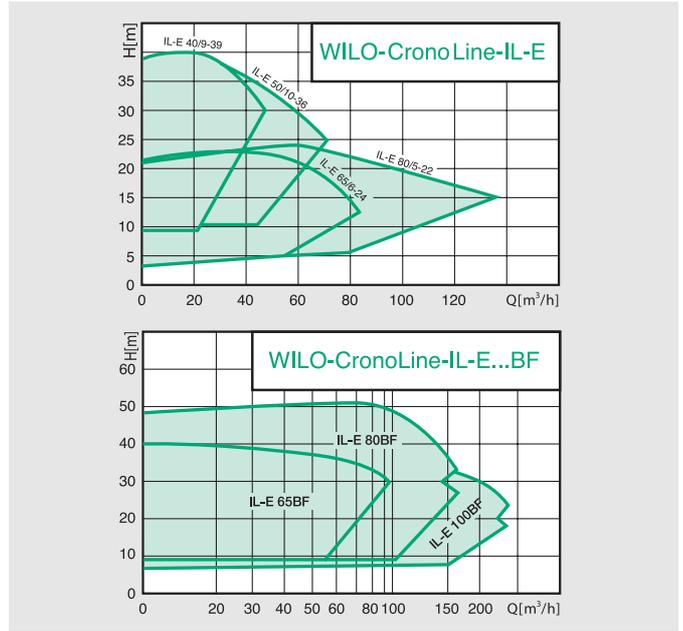
※ 상기 Data는 Model에 따라 다를 수 있습니다.

# In-Line Pumps

## IL-E Series



### 제품소개



### CronoLine IL-E

New Range 전자제어 인라인펌프

### 모델명

- 예) IL-E 50/10-36
- IL-E : 인라인 전자제어 펌프
- 50/ : 플랜지 구경(mm)
- 10-36 : 제어양정 범위 (최소 10, 최대 36)(m)

### 적용범위

- 냉난방 및 응축수시스템과 산업용, 상업용, 농업용 액체 이송장치에 적용
- 냉수, 냉각수, 온수, 글리콜 혼합용수 (10% 미만), 열교환 용수

### 기술자료

- 허용유체  
VDI 2035에 적합한 유체  
냉수 / 냉각수  
글리콜 혼합용수 (10% 미만)  
열 교환용수
- 성능  
속도범위 : 1100~2900rpm  
온도범위 : -20℃ ~ +140℃
- 온도에 따른 압력범위: 13bar +140℃  
16bar +120℃
- 주위온도  
최고온도 : +40℃
- 현장설치  
파이프에 직접 설치  
지지대(브라켓) 장착 설치 (option사양)

- 파이프와 배관 연결  
구 경 : 플랜지 PN 16 / EN 1092-2
- 주 전원  
3~400 V, 50Hz  
3~380 V, 60Hz
- Motor  
모터보호장치 내장  
보호등급 : IP 54  
절연등급 : F
- 전자파 보호 규정  
EN 50081-1 / EN 50082-2
- 재질 구성  
펌프케이싱 : Gray Cast Iron  
임펠러 : Gray Cast Iron  
랜 턴 : Gray Cast Iron  
샤프트 : 1,4122 / Stainless Steel  
미캐니컬 실 : AQ,EGG

### 펌프기능

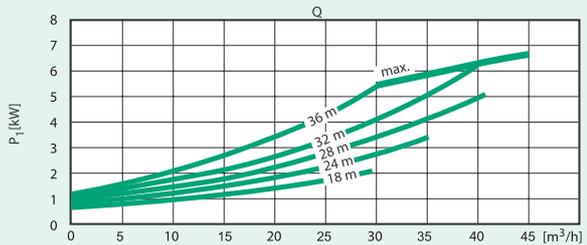
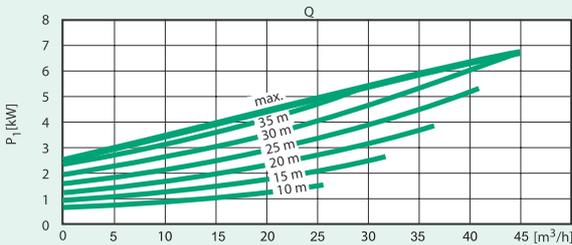
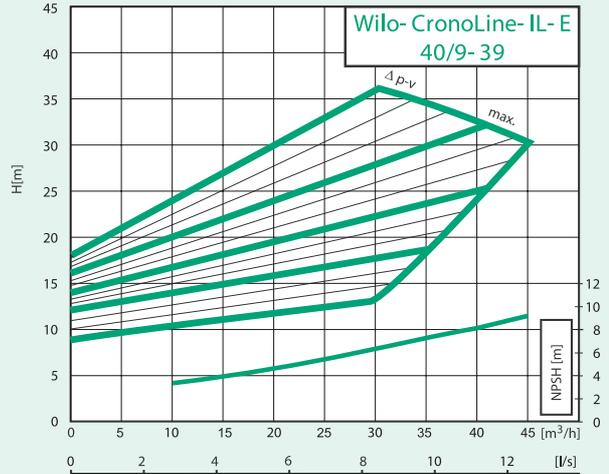
- $\Delta p$ -c 유량변화에 따른 일정한 압력제어
- $\Delta p$ -v 부하변화에 따른 유량 및 압력제어
- DDC 제어센서에 의한 원격제어 (제어 전원 DC 0-10V)
- 수동 운전 기능
- 운전 및 펌프 상태표시 기능
- IR 제어기에 의한 리모콘 기능
- 운전상태 및 알람상태 점점 출력 기능
- 입력단자에 의한 정지 기능
- 입력단자에 아날로그 신호 제어 기능
- WILO-IF 모듈에 따른 듀얼펌프 제어 및 BMS(Building Management System) 기능

### IL-E 40/9-39

$\Delta p$ -c (constant)

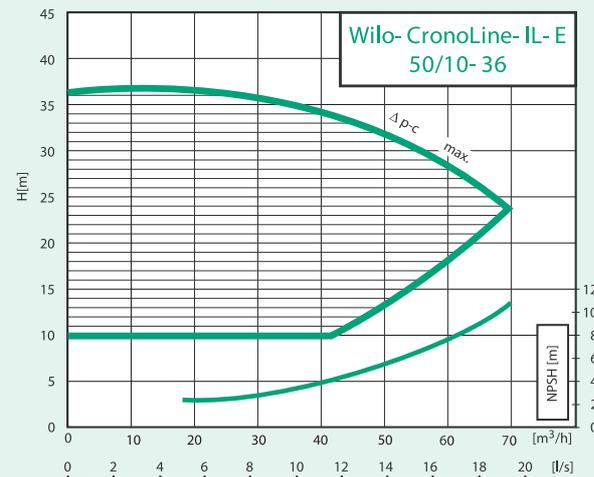


$\Delta p$ -v (variable)

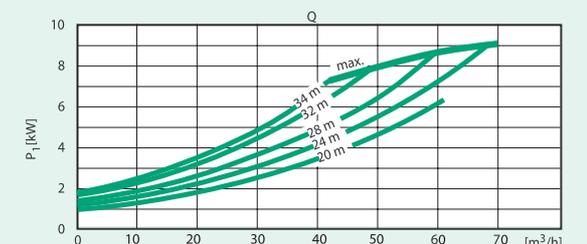
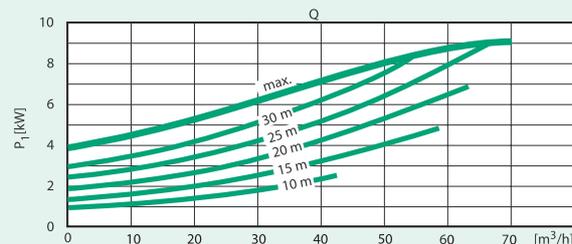
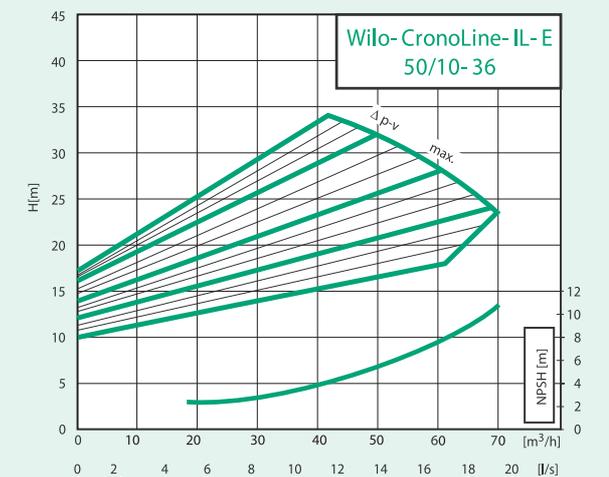


### IL-E 50/10-36

$\Delta p$ -c (constant)



$\Delta p$ -v (variable)



# In-Line Pumps

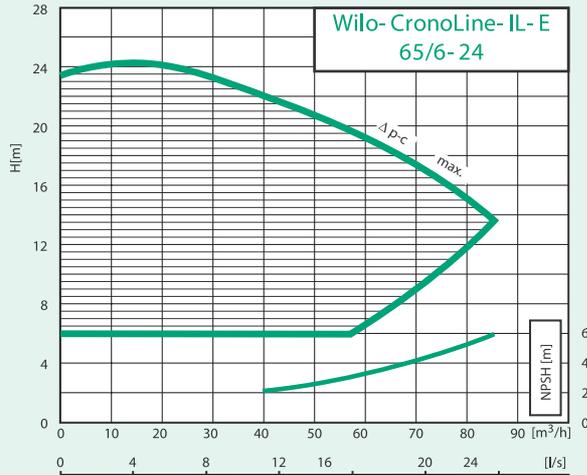
## IL-E Series



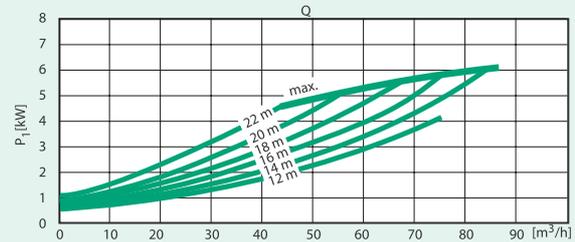
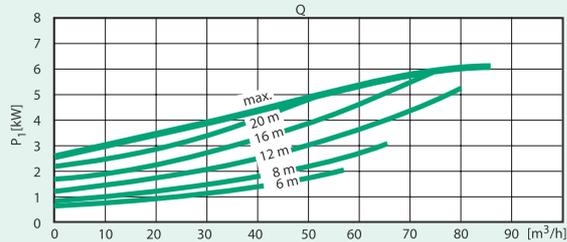
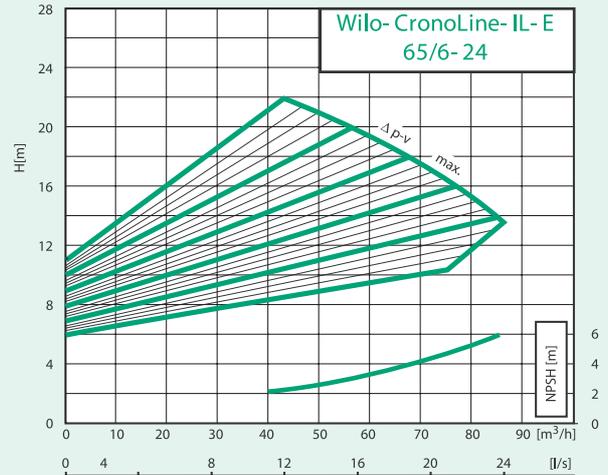
성능곡선

### IL-E 65/6-24

$\Delta p$ -c (constant)

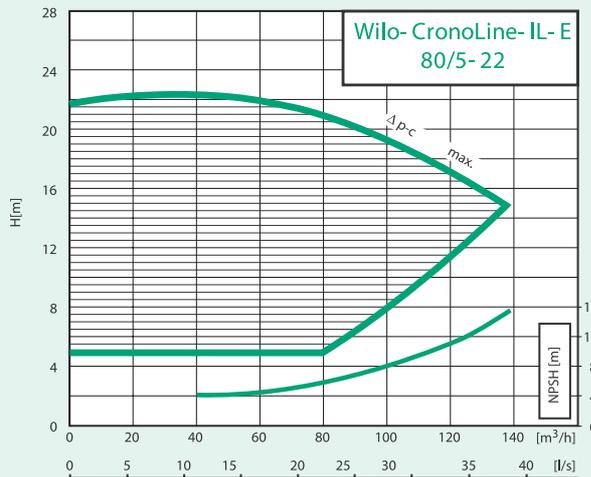


$\Delta p$ -v (variable)

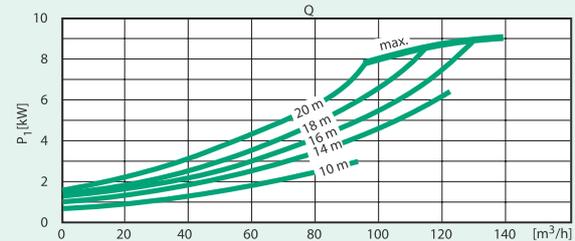
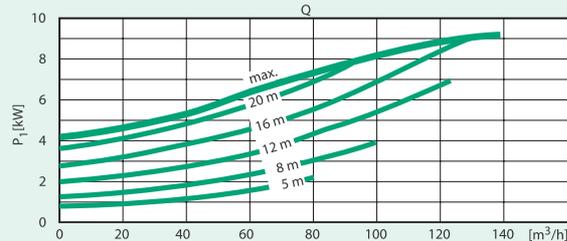
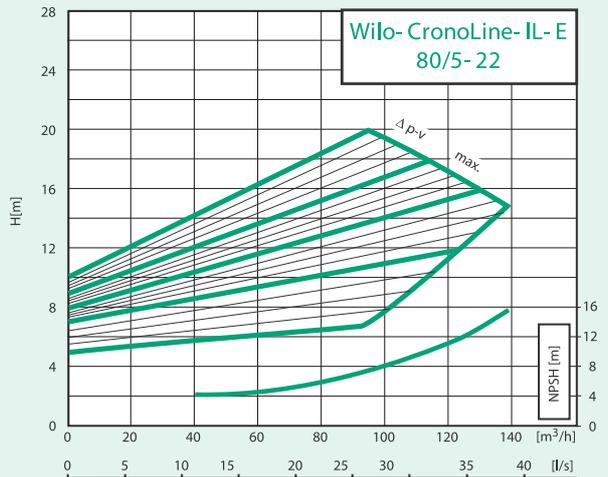


### IL-E 80/5-22

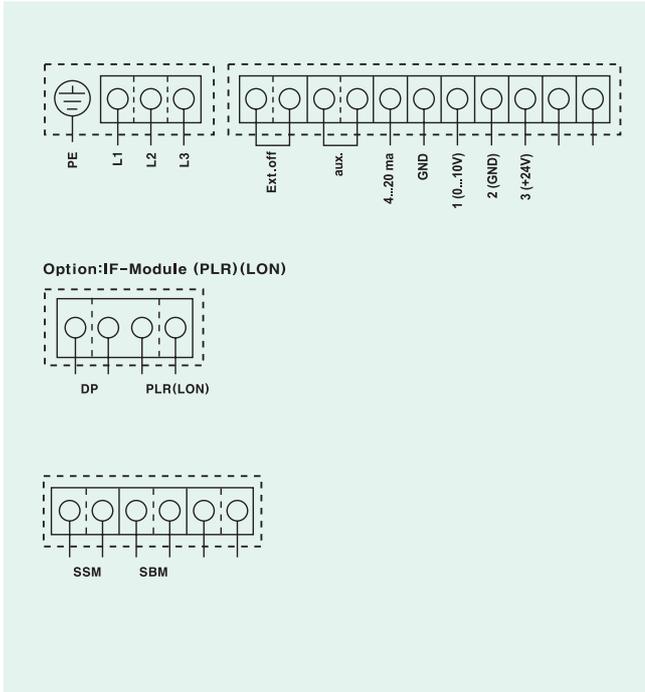
$\Delta p$ -c (constant)



$\Delta p$ -v (variable)



### 결선도



Switch rating of interference contacts for the collective Run and Fault signal :  
Min. 12 V DC/10 mA, max. 250 V AC/1A

L1, L2, L3, PE	Mains connection 3~400 V/50 Hz; 3~380 V/60 Hz
SSM	Floating collective fault signal (Changeover contact to VDI 3814, for function see Wilo TOP-Control)
SDM	Voltfree collective run signal (Changeover contact to VDI 3814, for function see Wilo-TOP-Control)
3	+24 V(Output) for ext. consumer/sensor
2	Earth(⊥)
1	0-10 V (Input) differential pressure sensor or external control parameter
4...20 mA	not assigned
External off	Control input "Priority OFF"(24 V)for external voltfree contact (Closed contact)
DP	Twin-head pump management (2 Pumps)
PLR	Serial digital BMS interface
LON	Serial digitale GA interface (LONWORKS)

### 모터 DATA

Model	Nominal power P <sub>2</sub> max. [kW]	Speed n [rpm]	Power consumption P <sub>1</sub> [kW]	Full load current I [A]
IL-E 40/9-39	5,5	1,100-2,900	7,2	11,5
IL-E 50/10-36	7,5	1,100-2,900	9,3	14,5
IL-E 65/6-24	5,5	1,100-2,900	7,2	11,5
IL-E 80/5-22	7,5	1,100-2,900	9,3	14,5

Three-phase motor (DM), 2-Pole-3~400V, 50Hz / 3~380V,60Hz

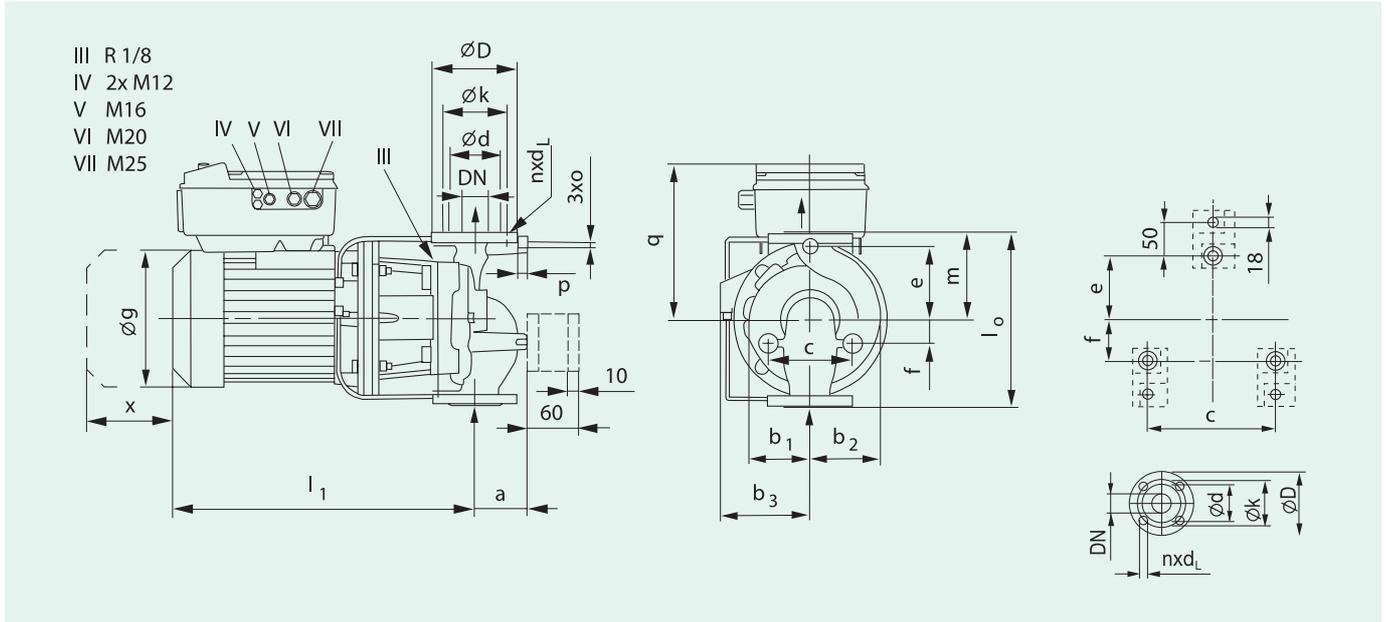
# In-Line Pumps

## IL-E Series



### 외형도 및 치수

#### 외형도



#### 치수 및 중량

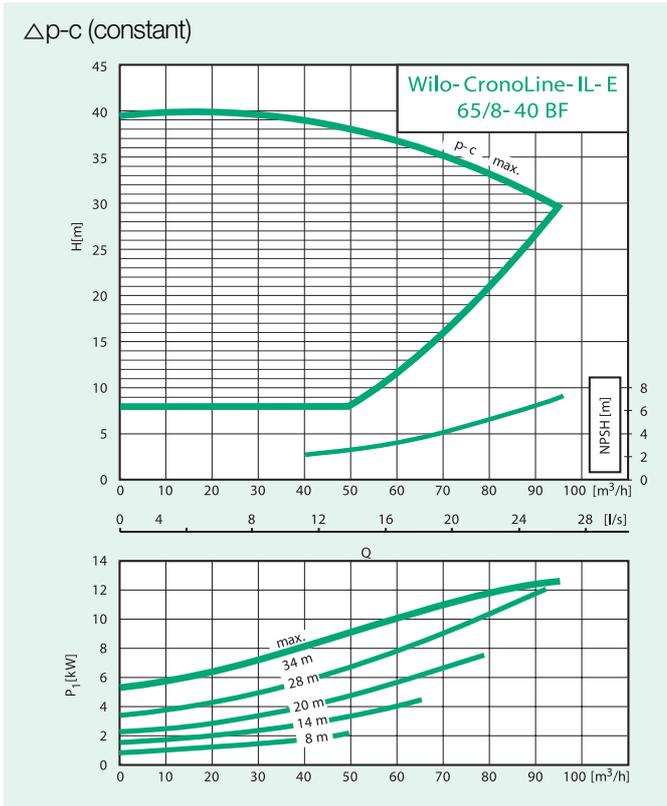
Model	Pipe connection/ nominal diameter	Pump dimensions															Weight, approx.		
		-	$l_0$	$a$	$b_1$	$b_2$	$b_3$	$c$	$e$	$f$	$\varnothing g$	$\sim l_1$	$m$	$o$	$p$	$q$		$x$	-
		DN	[mm]															[kg]	
IL-E 40/9-39	40	340	82	113	129	180	130	149	58	266	583	170	M10	20	303	95	89		
IL-E 50/10-36	50	340	103	120	138	180	164	143	48	266	590	170	M10	20	303	100	101		
IL-E 65/6-24	65	340	110	126	146	180	180	195	60	266	596	215	M12	20	303	120	97		
IL-E 80/5-22	80	400	105	123	151	180	173	57	58	266	610	200	M12	20	303	120	106		

#### 플랜지 규격

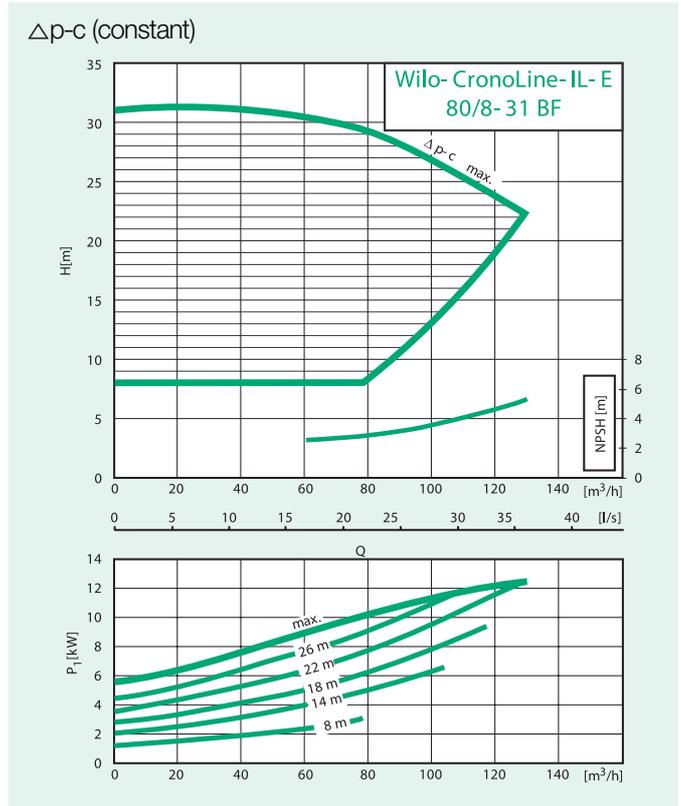
Model	Pipe connection/ nominal diameter	Flange dimensions, pumps-to EN 1092-2 PN16			
		D	d	k	$n \times d_L$
		[mm]			
IL-E 40/9-39	40	150	84	110	4 x 19
IL-E 50/10-36	50	165	99	125	4 x 19
IL-E 65/6-24	65	185	118	145	4 x 19
IL-E 80/5-22	80	200	132	160	8 x 19

n=No. of bolt holes

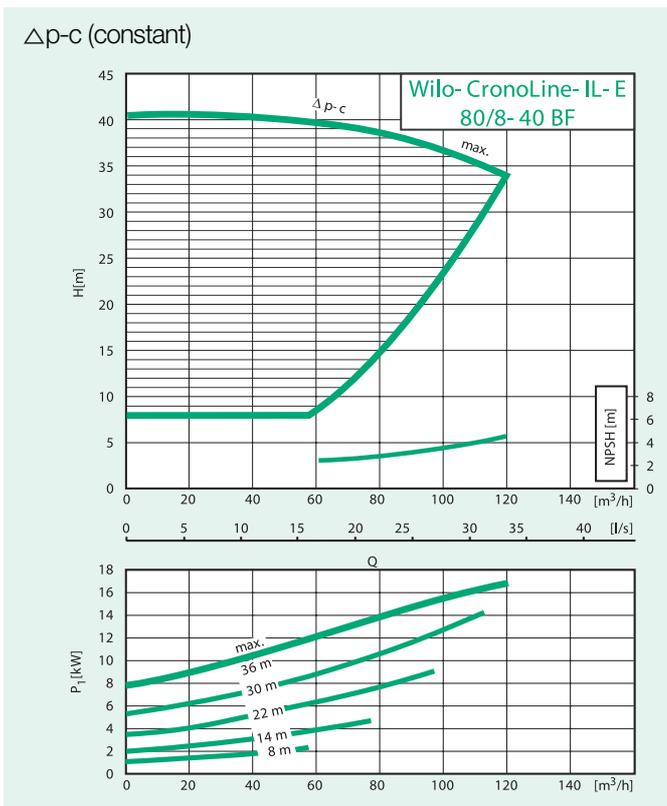
IL-E 65/8-40 BF



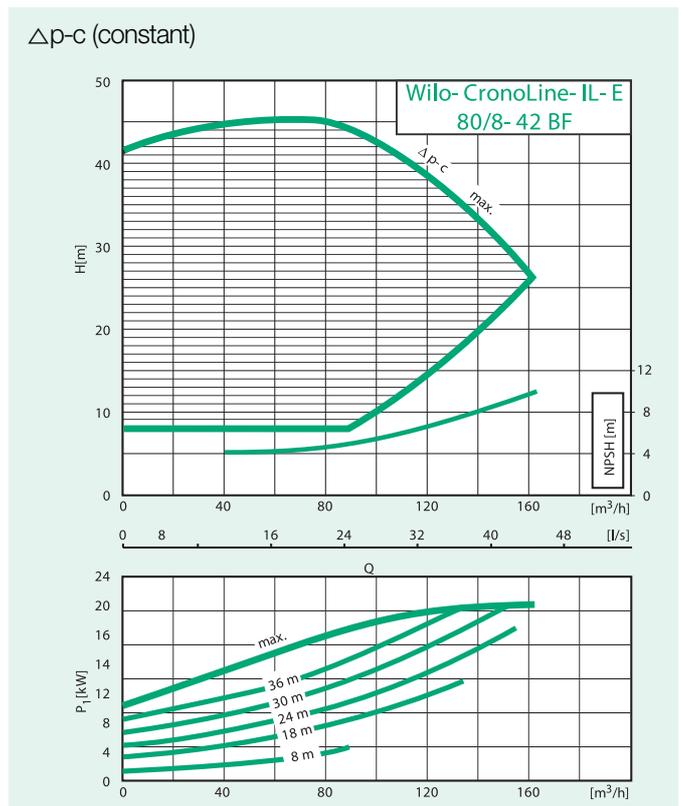
IL-E 80/8-31 BF



IL-E 80/8-40 BF



IL-E 80/8-42 BF



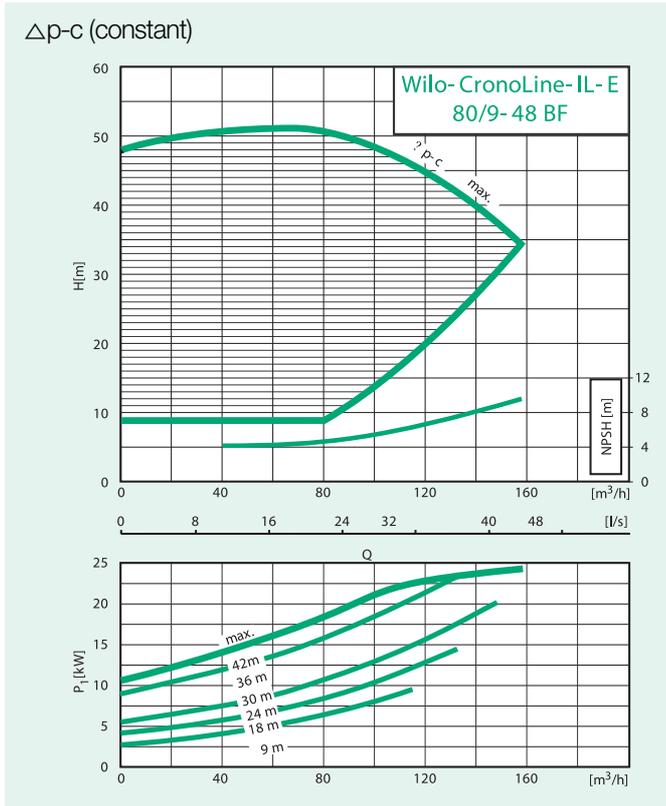
# In-Line Pumps

## IL-E...BF Series

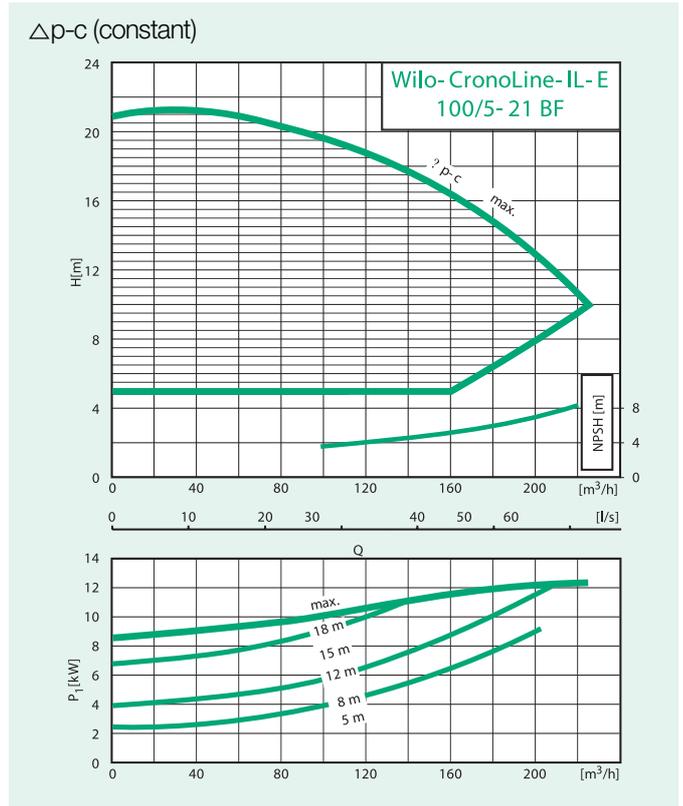


성능곡선

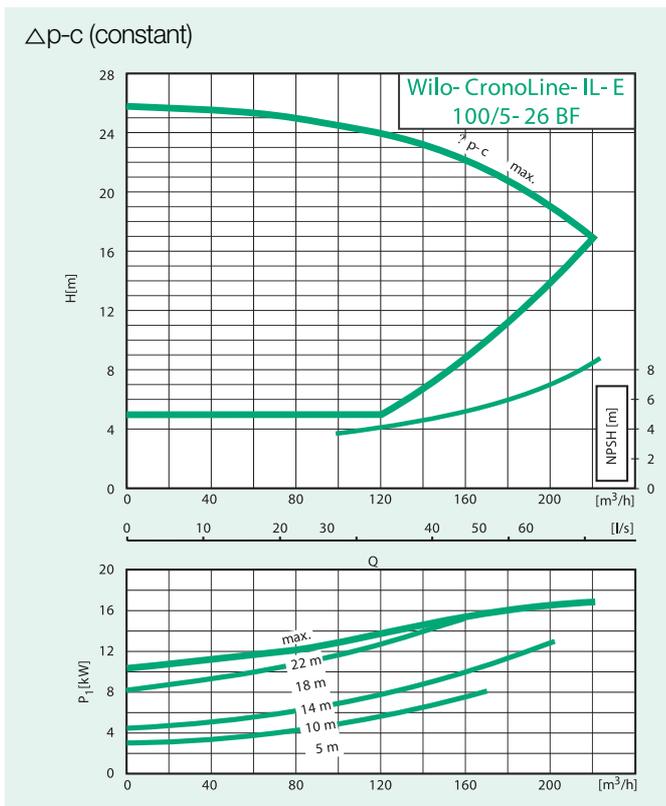
IL-E 80/9-48 BF



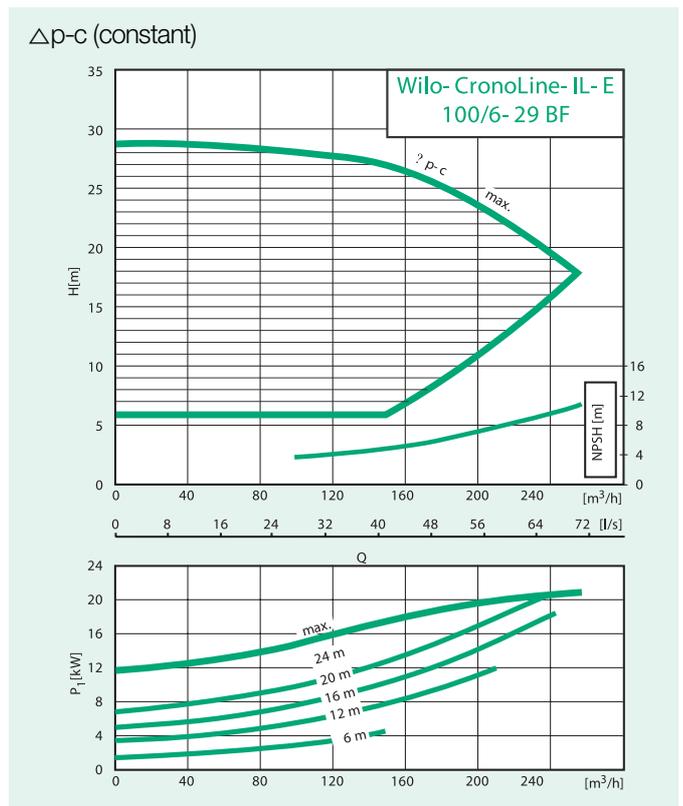
IL-E 100/5-21 BF



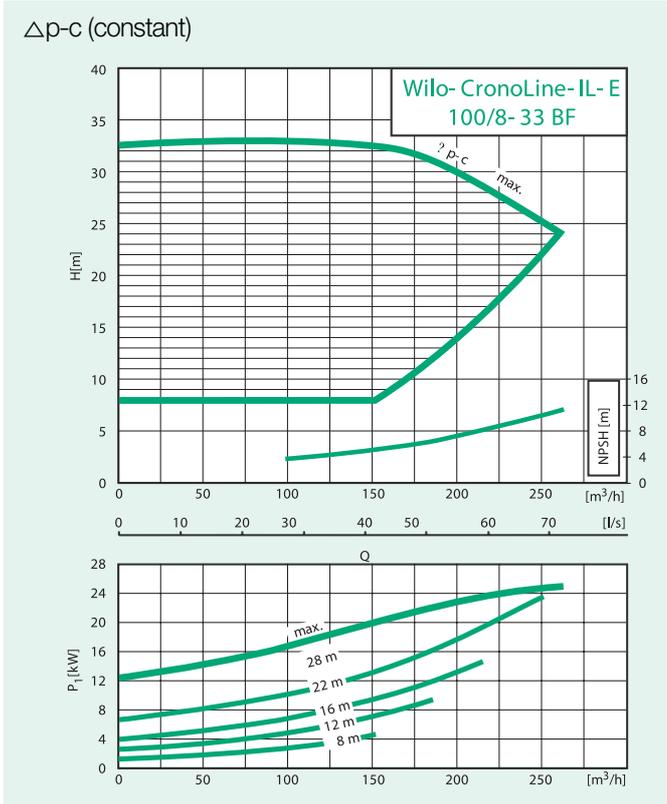
IL-E 100/5-26 BF



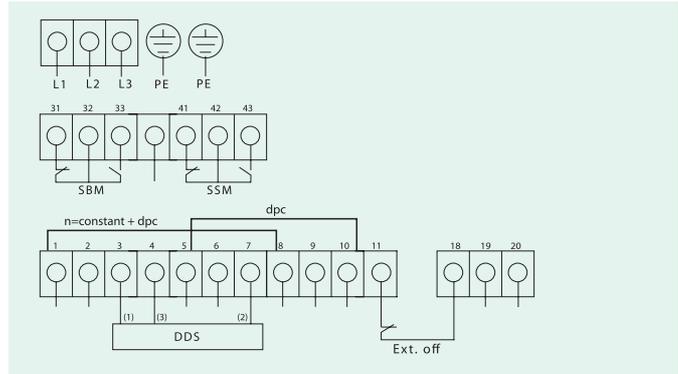
IL-E 100/6-29 BF



### IL-E 100/8-33 BF



### 결선도



Switch rating of interference contacts for the collective Run and Fault signal :  
Min. 12 V DC/10 mA, max. 250 V AC/1A

L1, L2, L3, PE	Mains connection 3~400 V/50 Hz; 3~380 V/60 Hz
SSM	Floating collective fault signal (Changeover contact to VDI 3814, for function see Wilo TOP-Control)
SBM	Voltfree collective run signal (Changeover contact to VDI 3814, for function see Wilo-TOP-Control)

### 모터 DATA

Model	Nominal power $P_2$ max. [kW]	Speed n [rpm]	Power consumption $P_1$ [kW]	Full load current I [A]
IL-E 65/8-40 BF	11,0	1,164-2,909	12,8	20
IL-E 80/8-31 BF	11,0	1,164-2,909	12,8	20
IL-E 80/8-40 BF	15,0	1,168-2,920	17,0	26,7
IL-E 80/8-42 BF	18,5	1,166-2,915	21,0	32,5
IL-E 80/9-48 BF	22,0	1,170-2,925	25,0	39,4
IL-E 100/5-21 BF	11,0	1,164-2,909	12,8	20
IL-E 100/5-26 BF	15,0	1,168-2,920	17,0	26,7
IL-E 100/6-29 BF	18,5	1,166-2,915	21,0	32,5
IL-E 100/8-33 BF	22,0	1,170-2,925	25,0	39,4

Three-phase motor (DM), 2-Pole-3~400V, 50Hz / 3~380V, 60Hz

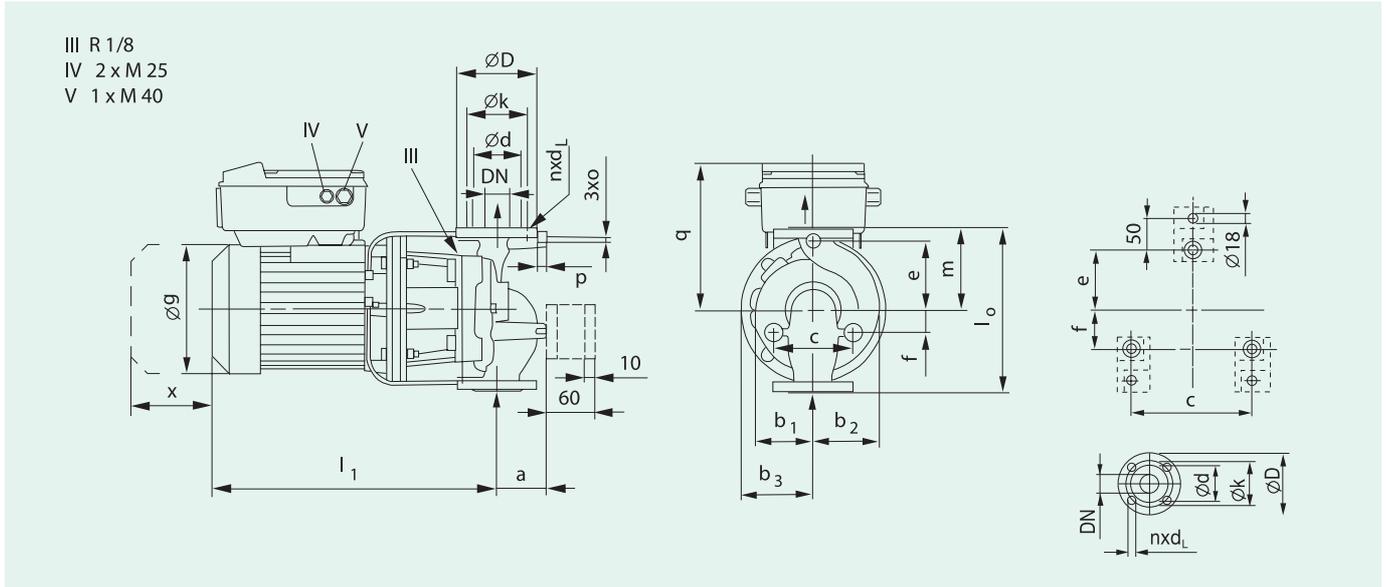
# In-Line Pumps

## IL-E...BF Series



### 외형도 및 치수

#### 외형도



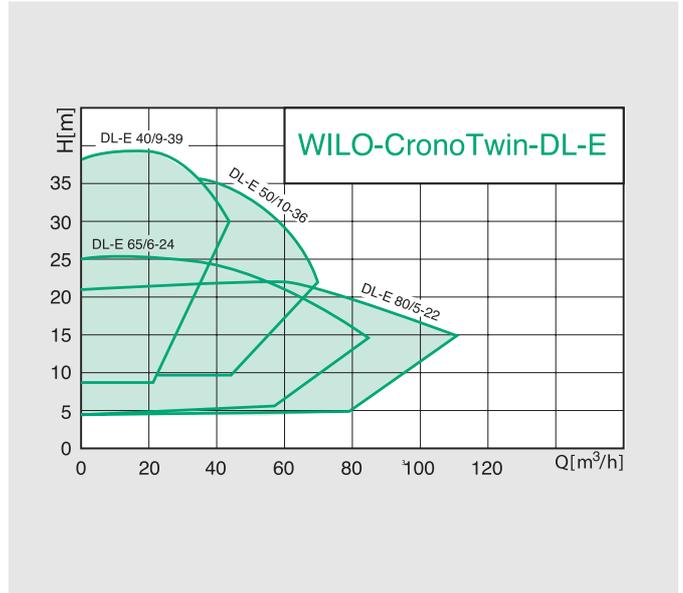
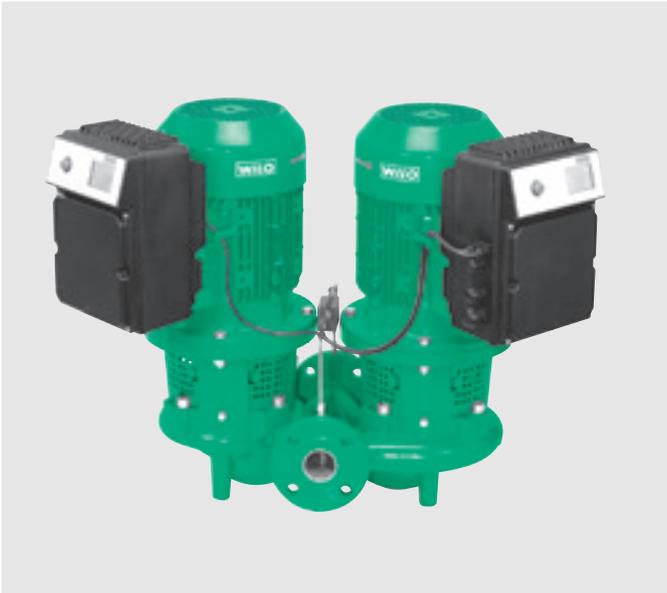
#### 치수 및 중량

Model	Pipe connection/ nominal diameter	Pump dimensions															Weight, approx.		
		-	$l_0$	a	$b_1$	$b_2$	$b_3$	c	e	f	g	$\sim l_1$	m	o	p	q		x	-
		DN	[mm]															[kg]	
IL-E 65/8-40 BF	40	430	110	126	146	175	180	195	60	306	750	215	M12	20	375	120	173		
IL-E 80/8-31 BF	80	440	120	136	162	175	180	173	72	319	747	200	M12	20	375	120	182		
IL-E 80/8-40 BF	80	440	120	136	162	175	180	173	72	319	747	200	M12	20	405	120	199		
IL-E 80/8-42 BF	80	500	145	157	182	175	220	208	62	319	833	230	M12	20	390	120	255		
IL-E 80/9-48 BF	80	500	145	157	182	175	220	208	62	319	873	230	M12	20	430	120	286		
IL-E 100/5-21 BF	100	500	120	159	197	175	200	226	60	319	782	250	M12	20	375	135	195		
IL-E 100/5-26 BF	100	500	120	159	197	175	200	226	60	319	782	250	M12	20	405	135	212		
IL-E 100/6-29 BF	100	500	120	159	197	175	200	226	60	319	782	250	M12	20	390	135	255		
IL-E 100/8-33 BF	100	500	120	159	197	175	200	226	60	358	906	250	M12	20	430	135	286		

#### 플랜지 규격

Model	Pipe connection/ nominal diameter	Flange dimensions, pumps-to EN 1092-2 PN 16			
		D	d	k	$n \times d_L$
		DN	[mm]		
IL-E 65...BF	65	185	118	145	4 x 19
IL-E 80...BF	80	200	132	160	8 x 19
IL-E 100...BF	100	220	156	180	8 x 19

n=No. of bolt holes



### CronoTwin DL-E

New Range 전자제어 듀얼인라인펌프

### 모델명

예) DL-E 50/10-36

- DL-E : 듀얼 인라인 펌프
- 50/ : 플랜지 구경(mm)
- 10-36 : 제어양정 범위 (최소 10, 최대 36)(m)

### 적용범위

- 냉난방 및 응축수시스템과 산업용, 상업용, 농업용 액체 이송장치에 적용
- 냉수, 냉각수, 온수 글리콜 혼합용수 (10% 미만) 열교환 용수

### 기술자료

- 허용유체  
VDI 2035에 적합한 유체  
냉수/냉각수  
글리콜 혼합용수(10% 미만)  
열 교환용수
- 성능  
속도범위 : 1100~2900rpm  
온도범위 : -20℃~+140℃
- 온도에 따른 압력범위: 13bar +140℃  
16bar +120℃
- 주위온도  
최고온도 : +40℃
- 현장설치  
파이프에 직접 설치  
지지대(브라켓) 장착 설치 (option사양)
- 배관 연결  
구경 : 플랜지 PN 16 / EN 1092-2

- 주 전원  
3~400 V, 50Hz  
3~380 V, 60Hz
- Motor  
모터보호장치 내장  
보호등급 : IP54  
절연등급 : F
- 전자파 보호 규정  
EN 50081-1 / EN 50082-2
- 재질 구성  
펌프케이싱 : Gray Cast Iron  
임펠러 : Gray Cast Iron  
랜턴 : Gray Cast Iron  
샤프트 : 1.4122 / Stainless Steel  
미캐니컬 실 : AQ<sub>1</sub>EGG

### 펌프기능

- Δp-c 유량변화에 따른 일정한 압력제어
- Δp-v 부하변화에 따른 유량 및 압력제어
- DDC 제어센서에 의한 원격제어 (제어 전원 DC 0-10V)
- 수동 운전 기능
- 운전 및 펌프 상태표시 기능
- IR 제어기에 의한 리모콘 기능
- 운전상태 및 알람상태 점점 출력 기능
- 입력단자에 의한 정지 기능
- 입력단자에 아날로그 신호 제어 기능
- WILO-IF 모듈에 따른 듀얼펌프 제어 및 BMS(Building Management System) 기능

# In-Line Pumps

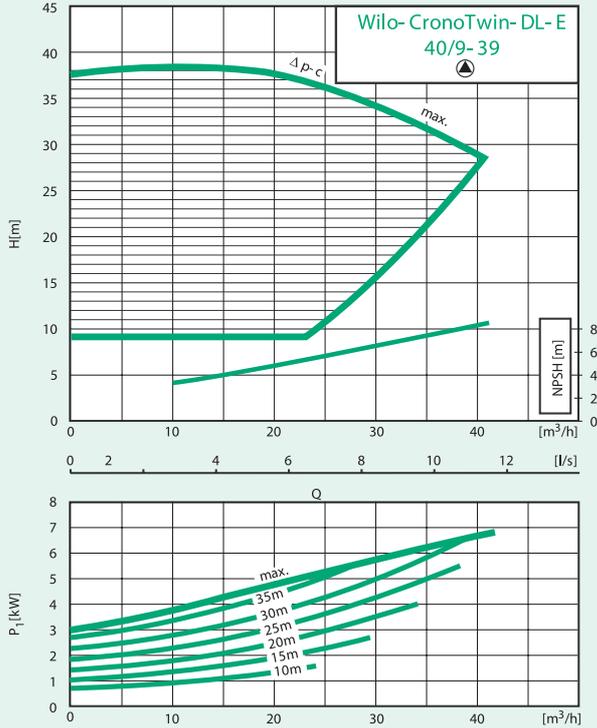
## DL-E Series



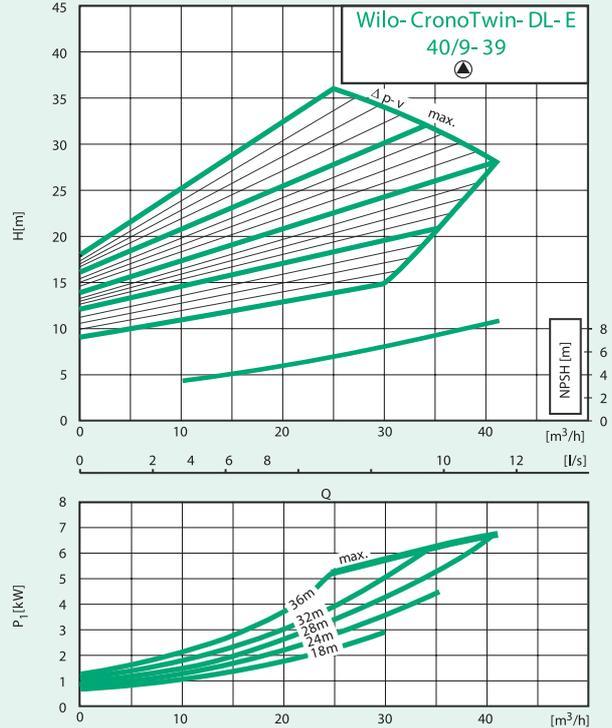
성능곡선

### DL-E 40/9-39

$\Delta p$ -c (constant) individual operation

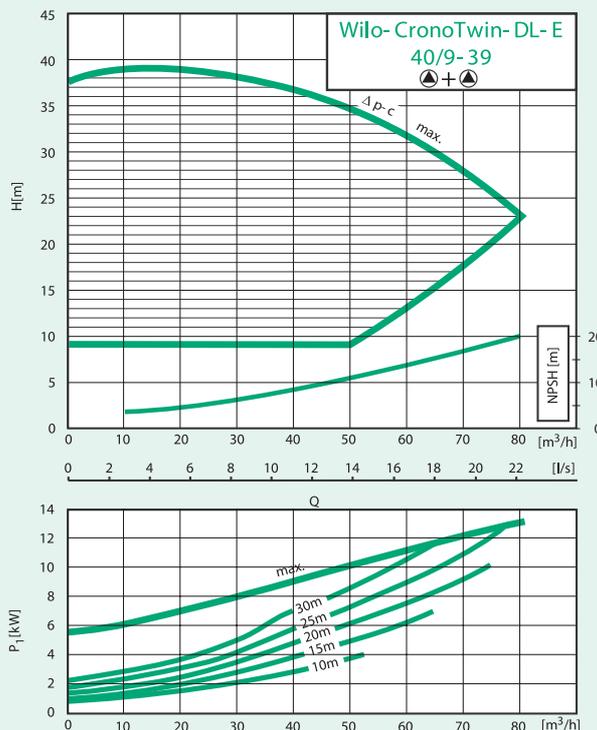


$\Delta p$ -v (variable) individual operation

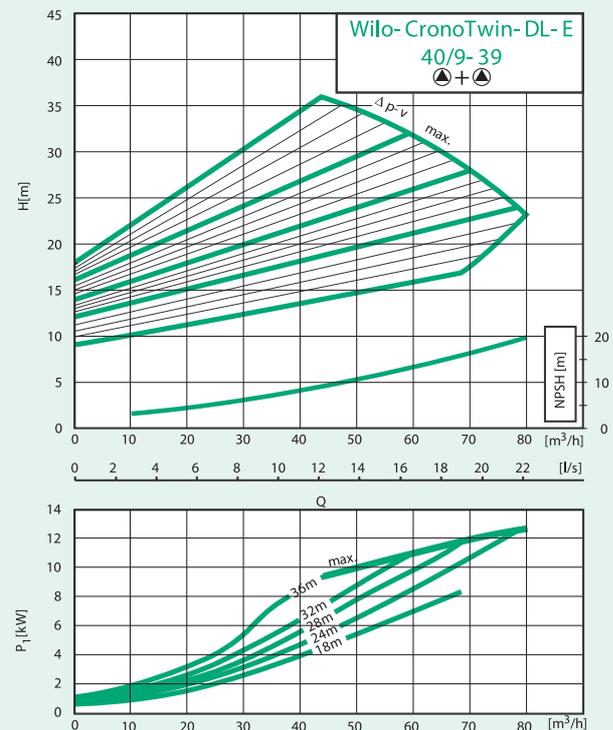


### DL-E 40/9-39

$\Delta p$ -c (constant) parallel operation

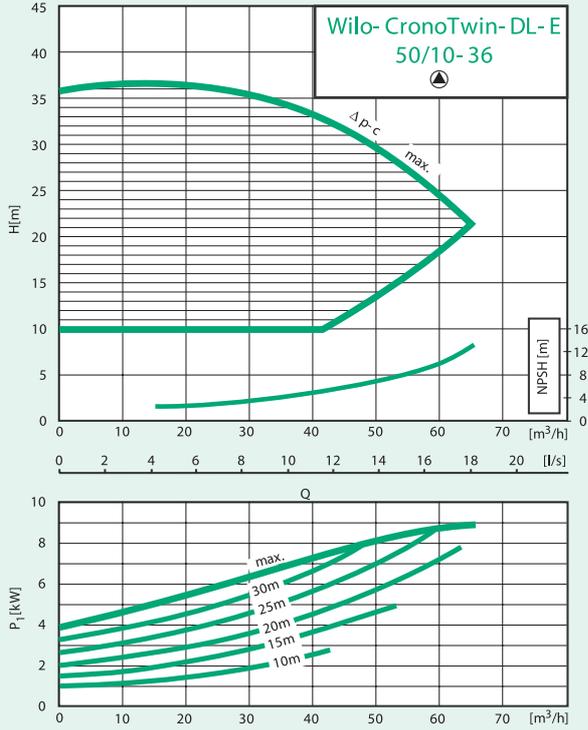


$\Delta p$ -c (variable) parallel operation

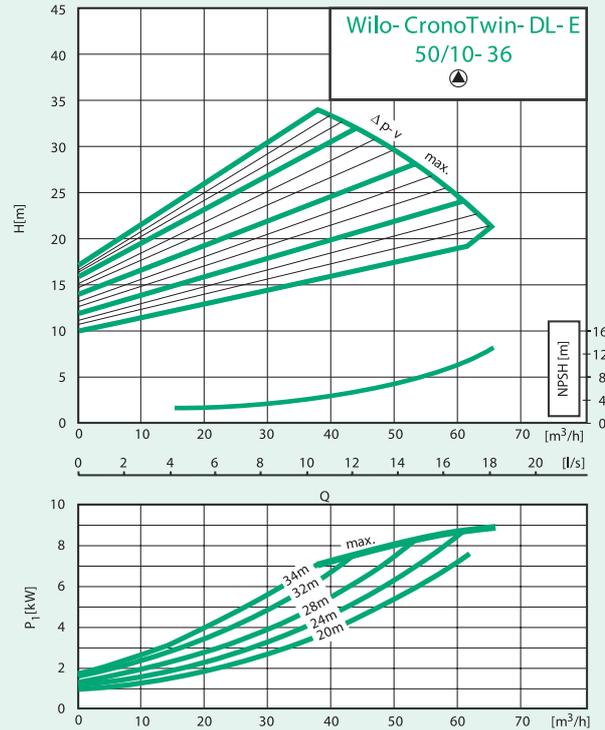


### DL-E 50/10-36

$\Delta p$ -c (constant) individual operation

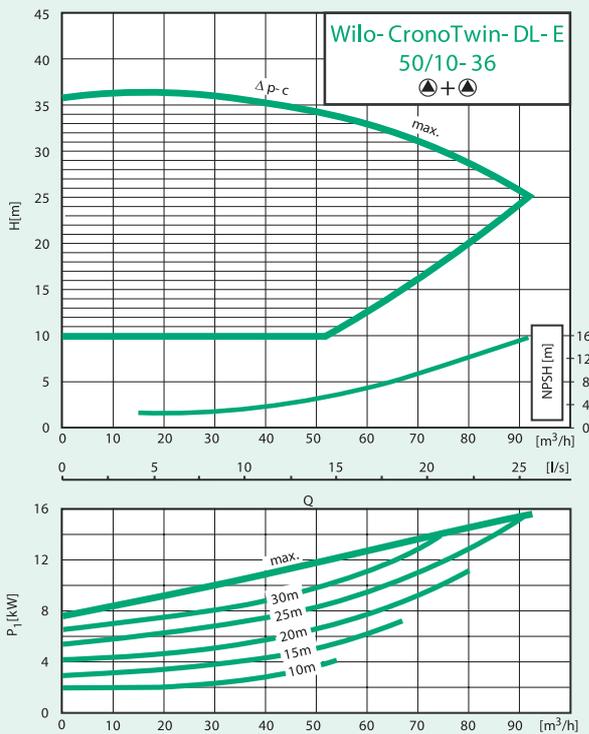


$\Delta p$ -v (variable) individual operation

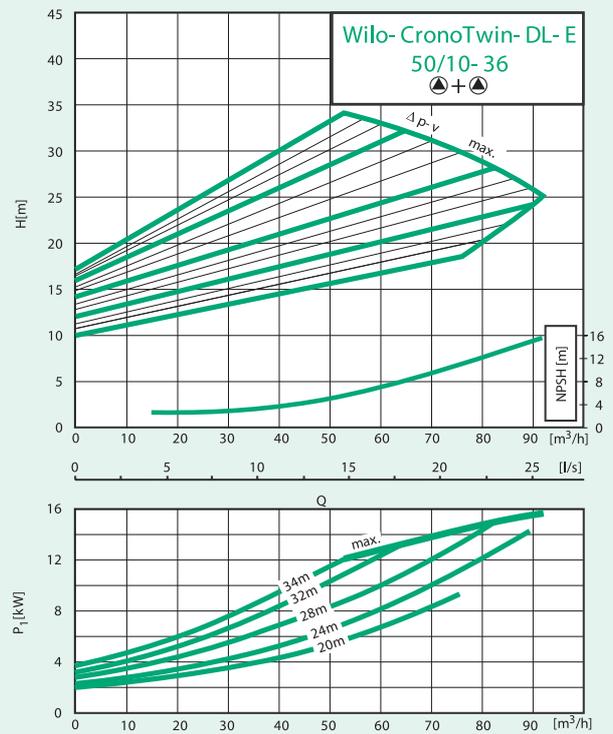


### DL-E 50/10-36

$\Delta p$ -c (constant) parallel operation



$\Delta p$ -v (variable) parallel operation



# In-Line Pumps

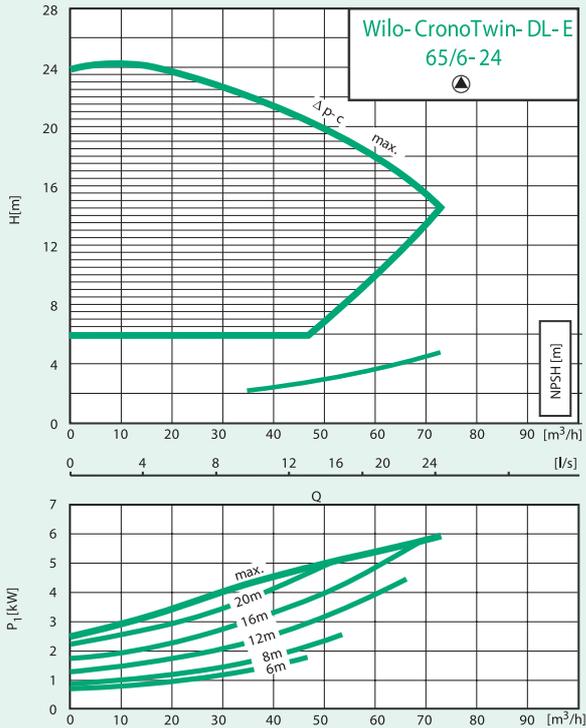
## DL-E Series



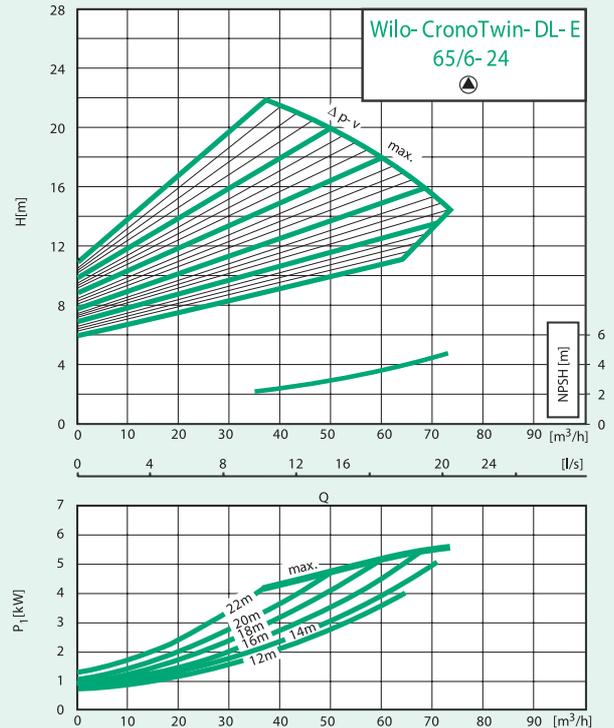
성능곡선

### DL-E 65/6-24

$\Delta p$ -c (constant) individual operation

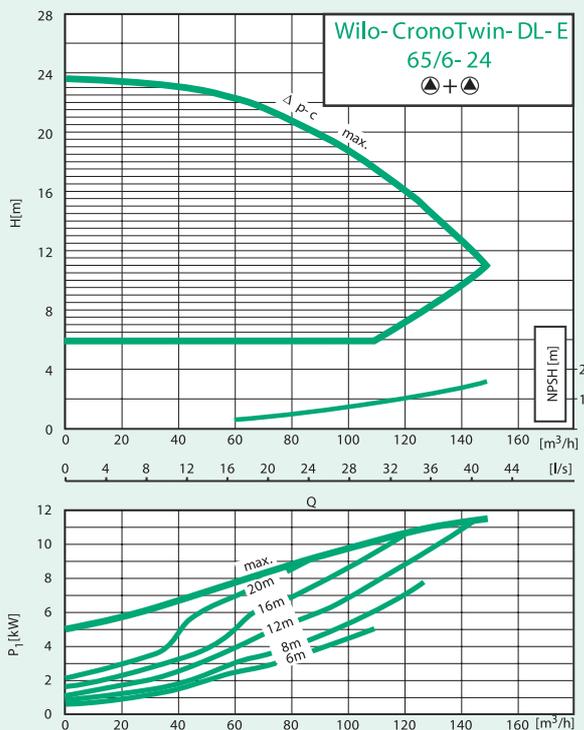


$\Delta p$ -v (variable) individual operation

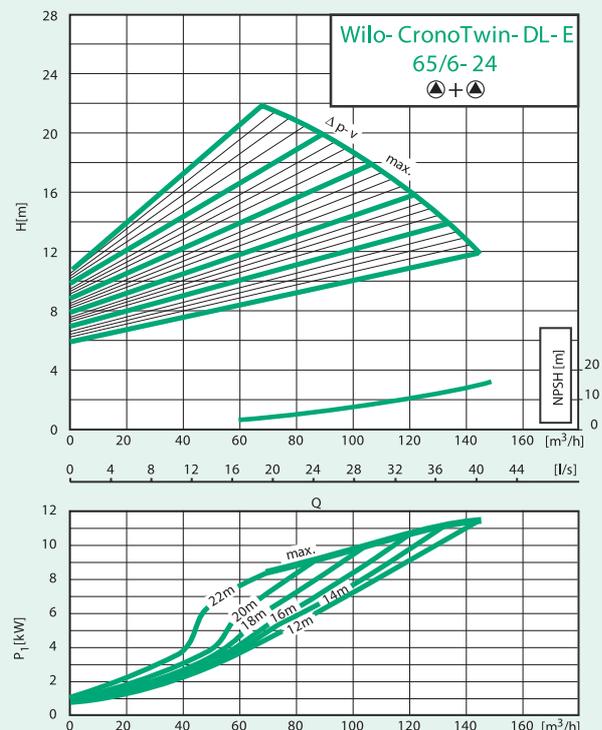


### DL-E 65/6-24

$\Delta p$ -c (constant) parallel operation

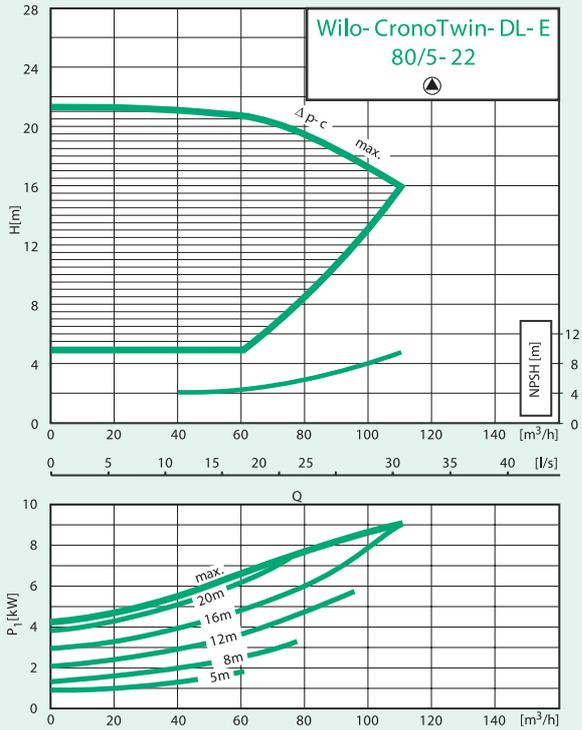


$\Delta p$ -c (variable) parallel operation

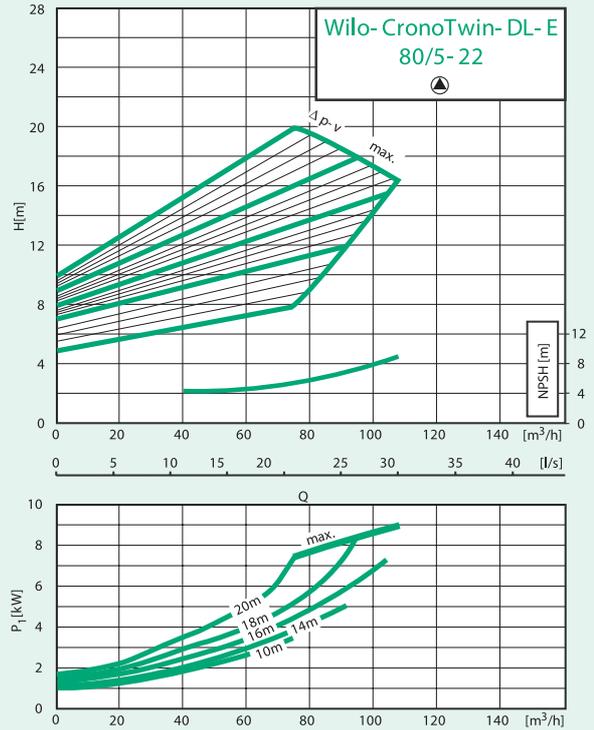


### DL-E 80/5-22

$\Delta p$ -c (constant) individual operation

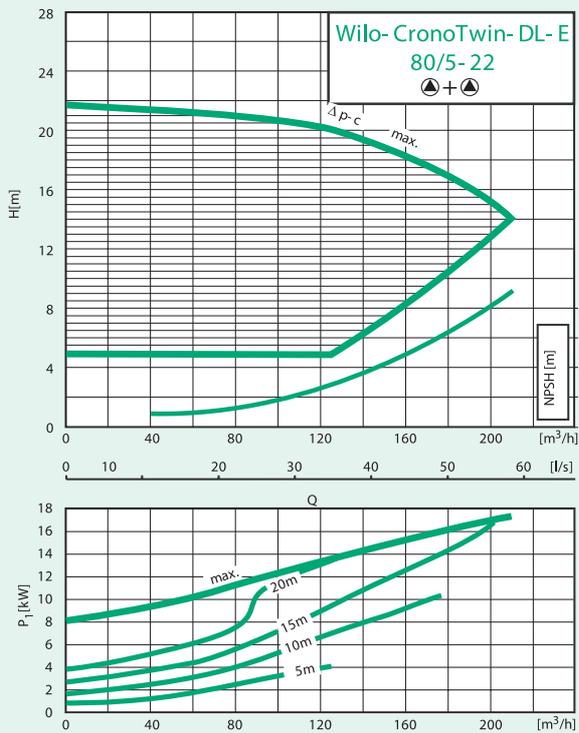


$\Delta p$ -v (variable) individual operation

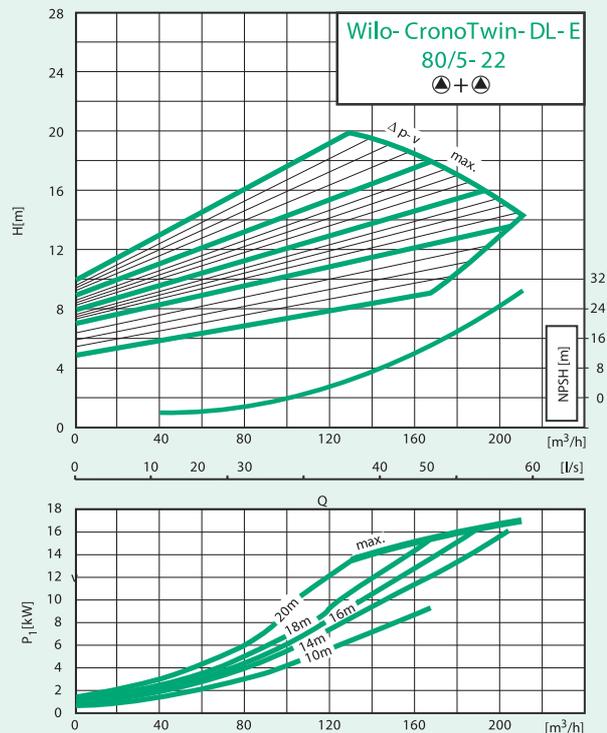


### DL-E 80/5-22

$\Delta p$ -c (constant) parallel operation



$\Delta p$ -c (variable) parallel operation



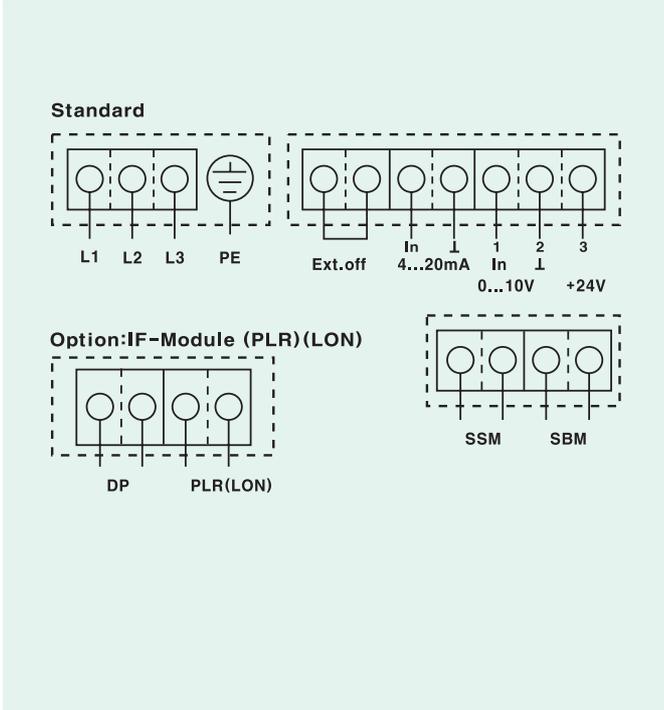
# In-Line Pumps

## DL-E Series



### 결선도 및 모터 Data

#### 결선도



Switch rating of interference contacts for the collective Run and Fault signal :  
Min. 12 V DC/10 mA, max. 250 V AC/1A

L1, L2, L3, PE	Mains connection 3~400 V/50 Hz; 3~380 V/60 Hz
SSM	Floating collective fault signal (Changeover contact to VDI 3814, for function see Wilo TOP-Control)
SDM	Voltfree collective run signal (Changeover contact to VDI 3814, for function see Wilo-TOP-Control)
3	+24 V(Output) for ext. consumer/sensor
2	Earth(⊥)
1	0-10 V (Input) differential pressure sensor or external control parameter
4...20 mA	not assigned
External off	Control input "Priority OFF"(24 V)for external voltfree contact (Closed contact)
DP	Twin-head pump management (2 Pumps)
PLR	Serial digital BMS interface
LON	Serial digitale GA interface (LONWORKS)

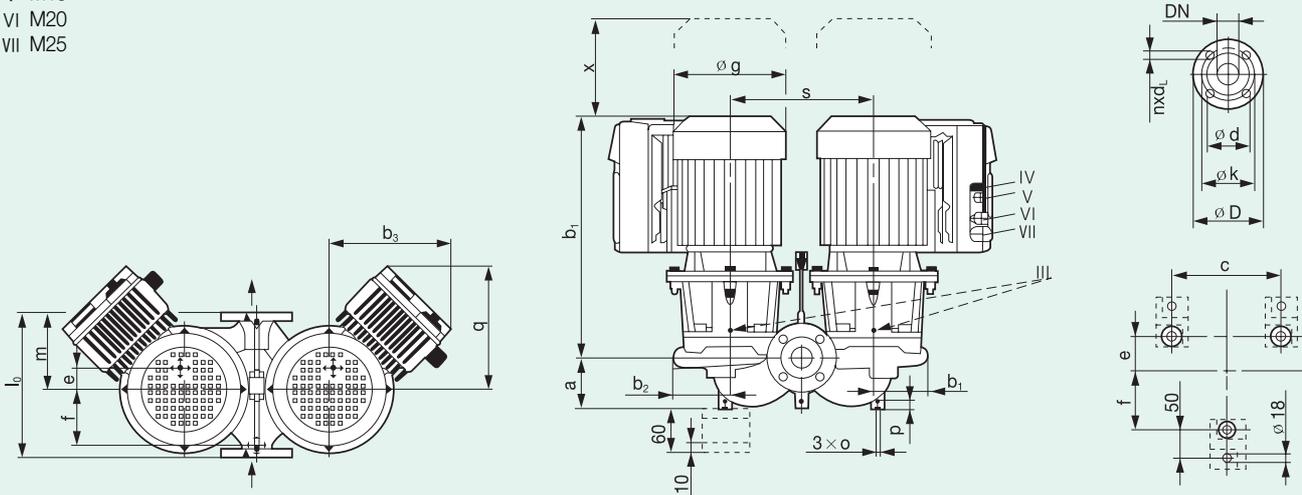
#### 모터 DATA

Model	Nominal power $P_{2,max}$ [kW]	Speed $n$ [rpm]	Power consumption $P_1$ [kW]	Full load current I [A]
DL-E 40/9-39	5.5	1,100-2,900	7.2	11.5
DL-E 50/10-36	7.5	1,100-2,900	9.3	14.5
DL-E 65/6-24	5.5	1,100-2,900	7.2	11.5
DL-E 80/5-22	7.5	1,100-2,900	9.3	14.5

Three-phase motor (DM), 2-Pole-3~400V, 50Hz / 3~380V,60Hz

### 외형도

- III Venting R 1/8
- IV 2x M12
- V M16
- VI M20
- VII M25



### 치수 및 중량

Model	Pipe connection/ nominal diameter	Pump dimensions															Weight, approx.			
		-	$l_0$	a	$b_1$	$b_2$	$b_3$	c	e	f	$\varnothing g$	$\sim l_1$	m	o	p	q		s	x	-
		DN	[mm]															[kg]		
DL-E 40/9-39	40	340	100	120	127	288	400	52	145	266	570	170	M10	20	288	340	95	173		
DL-E 50/10-36	50	340	120	126	136	288	360	50	130	266	567	180	M10	20	288	340	100	203		
DL-E 65/6-24	65	340	154	134	144	288	440	55	185	266	586	215	M12	20	288	400	120	202		
DL-E 80/5-22	80	400	135	134	146	288	400	62	175	266	591	200	M12	20	288	350	120	210		

### 플랜지 규격

Model	Pipe connection/ nominal diameter	Flange dimensions, pumps-to EN 1092-2 PN 16				
		-	D	d	k	$n \times d_L$
		DN	[mm]			[no. x mm]
DL-E 40/9-39	40	150	84	110	4 x 19	
DL-E 50/10-36	50	165	99	125	4 x 19	
DL-E 65/6-24	65	185	118	145	4 x 19	
DL-E 80/5-22	80	200	132	160	8 x 19	

n=No. of bolt holes

# In-Line Pumps

## IPk Series



### 제품소개



### 적용 범위

WILO 인라인 펌프 IPk 시리즈는 급수, 가압, 냉·난방 및 응축수 시스템과 산업용, 상업용, 농업용의 액체 이송 장치에 적용됩니다.

### 기술 자료

회전수 : 3450rpm(2극)  
연결관경 : DN 40mm  
허용온도 : -10℃ ~ +120℃  
최고허용압력 : 10bar  
최대주위온도 : +40℃

### 모터 사양

- 0,4kW 1~ 220V
- 0,55/0,75kW 3~220/380V
- 모터 보호방식 : IP54
- 절연 계급 : F

### 적용 액체

- VDI 2035에 준한 온수
- 냉수/냉각 용수
- 글리콜 혼합용수(40%미만)
- 열교환 용수 또는 상기외의 다른 액체(선택사양)

### 모델명

- IPk 40/95 - 0,75/2
- IPk : 인라인 펌프
- 40 : 흡입, 토출 구경(mm)
- 95 : 공칭 임펠러 외경(mm)
- 0,75/2 : 모터동력(kW)/극수

### 파이프와 압력게이지의 연결

플랜지 PN16/EN1092-2  
압력게이지용 1/8" 탭

### 현장설치

파이프에 직접장착

### 펌프의 재질 사양

- 펌프 하우징 : Gray Cast Iron
- 브라켓 : Gray Cast Iron
- 임펠러 : Engineering Plastic
- 미캐니컬 실 : AQ, EGG
- 샤프트 : STS410